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ABSTRACT

As a preliminary step in identifying changes occurring in vocational education after the Carl D. Perkins Vocational and Applied Technology Act, a study gathered information on the status of vocational schools in school year (SY) 1991 and changes reported in SY 1992. Surveys assessed the status of program quality, collected information on estimated vocational education enrollments, and obtained information on the distribution of Perkins funding. In SY 1991, relatively few schools reported having quality components. In SY 1992, school district officials often attributed changes, such as upgrading teacher training or improving curricula, at least partially to the amendments. The new requirement that districts concentrate funds in a limited number of schools with the highest portions of targeted students did not result in a significant decrease in the number of schools funded in SY 1992. Little change was found in targeted group participation in vocational education. The Department of Education, states, and local school districts needed to make better progress toward meeting the amendments' goals for assessing vocational programs. Major portions of a national data system were in place, states were developing systems of standards and measures, but at the local level, about half the schools did not keep placement data. (Appendixes provide scope and methodology, present additional details, provide information on six school districts visited, and summarize responses to district and school questionnaires.) (YLB)

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United States General Accounting Office

GAO

Report to Congressional Requesters

July 1993

ED 360 509

VOCATIONAL EDUCATION

Status in School Year 1990-91 and Early Signs of Change at Secondary Level

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United States
General Accounting Office
Washington, D.C. 20548

Human Resources Division

B-247748

July 13, 1993

The Honorable Edward M. Kennedy
Chairman, Committee on Labor
and Human Resources
United States Senate

The Honorable Nancy Landon Kassebaum
Ranking Minority Member
Committee on Labor and Human Resources
United States Senate

The Honorable William D. Ford
Chairman, Committee on Education
and Labor
House of Representatives

The Honorable William F. Goodling
Ranking Minority Member
Committee on Education and Labor
House of Representatives

The purpose of the Carl D. Perkins Vocational and Applied Technology Education Act Amendments of 1990 (P.L. 101-392) is to improve overall vocational education program quality and ensure access to vocational programs for all students, including those from certain targeted groups, such as students with disabilities. Although the Perkins Act provides only about 10 percent of vocational education funding nationwide, many vocational education experts view its provisions as a driving force in setting national vocational education priorities.

In response to a mandate in the amendments, we have undertaken two 4-year studies—one of secondary schools and one of postsecondary institutions—to identify changes occurring in vocational education programs after the amendments took effect. Our studies focus on four key areas addressed by the amendments. Specifically, our studies address changes to (1) improve vocational program quality nationwide, in part by encouraging specific educational approaches; (2) require schools to ensure targeted groups' access to vocational programs; (3) concentrate funding so that programs are of sufficient size and scope to be effective, in part by setting a minimum allocation for districts and requiring funds to be used at a limited number of schools; and (4) require program assessments.

The mandate requires that we compare the 1990-91 school year (the year before the amendments took effect) with the 1993-94 school year. Although the law targets vocational education support to a variety of groups, our mandate requires us to focus on certain groups—students with disabilities, students with limited English proficiency, students who are disadvantaged,[1] and, to the extent practicable, foster children. The law requires that we report to the Congress by July 1, 1995. This interim report, requested by the House Education and Labor Committee, provides preliminary information to the Committee and to the vocational education community on (1) the status of vocational programs in secondary schools in school year 1990-91 and (2) changes reported in school year 1991-92. We will also issue an interim report on our study of changes in postsecondary vocational education.

Scope and Methodology

To do our work, we collected information through a number of surveys. We mailed questionnaires to nationally representative samples of public secondary schools and their associated central district offices. We assessed the status of program quality in terms of several indicators set forth in the act or identified by experts as generally associated with quality programs. Indicators included, for example, high school programs linked to postsecondary institutions or to the business community. We collected information on estimated vocational education enrollments, including estimates for targeted group students, for school years 1990-91 and 1991-92, and obtained information on initial changes to programs and services between these 2 school years. We also obtained information on the distribution of Perkins funding among districts and schools. To supplement our surveys, we visited one school district in each of six states, judgmentally selected on the basis of factors such as size, level of targeted group enrollment, and geographical balance. (See app. I for a more detailed discussion of our scope and methodology.) We did our work between October 1991 and December 1992 in accordance with generally accepted government auditing standards. The statistics we cite on the basis of the surveys are estimates of the responses we would have received had we surveyed all secondary schools and their district offices.

Results in Brief

Secondary schools will need to improve their vocational-technical programs substantially if they are to become high quality; but change is reported to have begun. In school year 1990-91, the year before the Perkins

[1]Disadvantaged students (other than those with disabilities) have economic or academic disadvantages and require special services and assistance to succeed in vocational education programs.

amendments, relatively few schools reported having quality components, such as links to postsecondary schools, that the amendments encourage and that many experts agree are needed to provide quality vocational-technical education. But districts and schools reported that the amendments have begun to have an impact. School district officials often attributed changes, such as upgrading teacher training or improving curricula, at least partially to the amendments.

The new requirement that districts concentrate funds in a limited number of schools with the highest portions of targeted students did not result in a significant decrease in the number of schools funded in the first year after the amendments. Although, in part, this was because about 80 percent of the districts had only one secondary school, many larger districts did not concentrate their Perkins funds. For example, 40 percent of districts with six or more secondary schools funded all their schools in both the year before the amendments and the year after. On the other hand, the proportion of districts that concentrated funding by pooling resources with other districts to form consortia almost doubled, increasing from 35 percent the year before the amendments to 61 percent the year after.

The amendments emphasized the importance of access to high-quality vocational education programs for targeted groups, including students with disabilities, students with limited English proficiency, and students who are economically or academically disadvantaged. We estimate that in both the year before and the year after the amendments, all three targeted groups participated in vocational education at rates equal to or higher than nontargeted groups. There was no significant change between the 2 years. Additionally, although about 10 percent of districts reported decreasing services for students in these groups, about half the districts reported increasing services for them.

The Department of Education, states, and local school districts need to make better progress toward meeting the amendments' goals for assessing vocational programs. At the time of our review, major portions of a national data system—required by the amendments—were in place, and the Department was taking additional steps to improve data collection, but gaps in the data still existed. Also, states were developing systems of standards and measures, required by school year 1992-93, to evaluate vocational programs; most states planned to use postgraduation placement data as one of their measures. However, at the local level, survey responses indicated that in school year 1990-91, about half the

schools did not keep placement data, which are key for assessing program outcomes.

Background

Perkins Act funding is the federal government's primary form of assistance to states and local school districts for vocational education. For school year 1990-91, the federal government provided about $1 billion for vocational education, including about $860 million in basic program grants to states and local education agencies for Perkins program activities.[2] Nationwide, we estimate that in school year 1990-91, about 3.6 million of 7.5 million secondary students participated in about 94,000 vocational-technical education programs in 11,600 schools.[3]

The amended act's stated purpose is to help make the United States more competitive in the world economy by improving the academic and occupational skills of all segments of the population. The act recognizes that jobs in the future will require increased skills and that vocational programs must change to ensure students attain appropriate skills. In emphasizing access for targeted groups, it also recognizes that students who are members of these groups are expected to compose a substantial and increasing part of the work force.

To improve programs and ensure access for targeted groups, the amendments encourage several types of approaches, such as linking secondary vocational education programs to postsecondary institutions, known as tech-prep programs, and integrating academic and vocational curricula to provide students with a better understanding of how schoolwork relates to job requirements. Also, the law requires districts to concentrate funding to help ensure programs are of sufficient size and scope to be effective and to help ensure access for the targeted groups. Under the amended law, districts with formula allocations under $15,000 generally are ineligible for funds unless they join other districts in a consortium in which total funding meets the $15,000 minimum. Then, at the local level, the law requires districts to use their Perkins funds in a

[2]Perkins Act funds are provided to the states through basic state grants. Each state's grant amount is determined by an allocation formula specified in the law. The formula is based primarily on each state's population in certain age groupings, with an adjustment factor based on states' per capita incomes. At the state level, each state decides how to allocate its Perkins funds between the secondary and postsecondary levels. Federal data are not available to determine the amounts allocated between secondary and postsecondary education nationwide.

[3]Vocational education, as defined in the act and as used in our survey, is an "organized educational program offering a sequence of courses which are directly related to the preparation of individuals for paid or unpaid employment." Our survey specifically excluded personal growth or exploratory courses that are not part of a sequence leading to an occupational skill.

limited number of schools or vocational education program areas, giving priority to those with the highest concentrations of targeted groups.

To improve vocational education program quality and accountability, the amendments require federal, state, and local education agencies to collect data for assessments. Among other things, the law required the Department of Education to establish a vocational education data system by March 1991 that contained information on teachers, facilities, and students, including targeted populations. It also required states to develop systems of standards and measures by September 1992 that include performance measures, such as placements, and required districts to use the state's standards and measures to evaluate their vocational-technical education programs.

Many Quality Components Missing in Most Schools, but Districts Reported Change Has Begun

In the school year before the amendments took effect (1990-91), relatively few high schools reported using the types of instructional approaches the act encourages and experts generally recognize as associated with quality programs. For example, we estimate that only 18 percent of schools had tech-prep programs, involving about 11 percent of vocational-technical programs and 8 percent of students nationwide. Likewise, relatively few schools used each of the nontraditional instructional methods that support integrated academic and vocational instruction. For example, only 14 percent of schools reported that academic and vocational teachers taught as a team, involving only about 4 percent of vocational-technical students. Although schools more often reported having programs with links to the business community, the type and extent of such links varied.

Vocational-technical schools were more likely than comprehensive schools to use these "quality" approaches. However, such schools enrolled a relatively small portion of vocational students nationally.

School districts reported that change has begun, however. Districts reported that, at least partially in response to the amendments, they had made changes in school year 1991-92, such as improving curriculum (63 percent of the districts) and upgrading teachers' skills (54 percent). For example, using Perkins basic grant funds, Delaware County, Pennsylvania, Technical Schools and their consortium partners began planning during school year 1991-92 for their first tech-prep program, an allied health services technology program linked with the county community college and an area hospital. The new program was in operation in school year 1992-93.

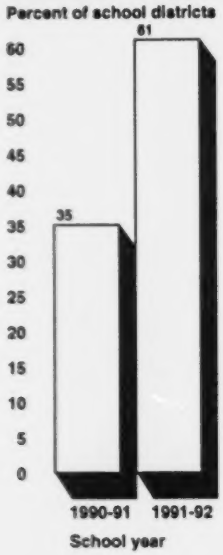
Funds Not Concentrated Into Fewer Schools, but Participation in Consortia Increased

Funds concentration among schools changed little, in part because only about 20 percent of the districts had more than one secondary school but also because many larger districts did not fund fewer schools.[4] We estimate that the number of schools receiving Perkins funds did not significantly change—an estimated 13,200 schools received funds in school year 1990-91 compared to 12,800 the following year. Before the amendments, in school year 1990-91, 44 percent of larger districts—those with six or more secondary schools—were already concentrating Perkins funds to some extent; that is, at least one secondary school in the district did not receive Perkins funds. Little changed after the amendments' passage. Overall, about 55 percent of the larger districts concentrated their Perkins funds in 1991-92. About 40 percent of the larger districts provided Perkins funds to all their schools in both years. We provided this information to the Department of Education and state officials. In response, the Department issued guidance in February 1993 to emphasize the need for larger districts to concentrate their funding if they had not already done so.

On the other hand, the number of districts participating in consortia reportedly almost doubled between school years 1990-91 and 1991-92. (See fig. 1.) For example, an area vocational-technical school that we visited formed a consortium with several school districts. The consortium used some of the pooled funds to begin integrating vocational and academic instruction. An official of one of the smaller participating districts, whose allocation would have been less than the $15,000 minimum established in the amendments, told us the district would have been unable to undertake such an effort on its own.

[4]Districts with only one secondary school obviously had no opportunity to consolidate Perkins funding to fewer schools. In these and other districts, it is possible that Perkins funds were concentrated in a limited number of vocational education program areas within schools.

Figure 1: Estimated School District Participation in Consortia (School Years 1990-91 and 1991-92)

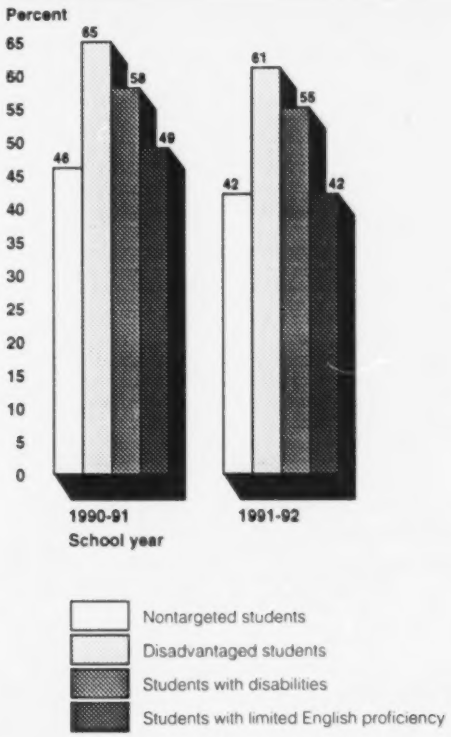


Little Change in Targeted Group Participation in Vocational Education

The House Education and Labor Committee and the Senate Labor and Human Resources Committee recognized that changing the Perkins Act to remove the emphasis on specific set-asides for targeted groups was controversial, and there was congressional concern that targeted groups should have better access to high-quality vocational education. Because data are currently available for only 1 year following the amendments, it is too early to tell what effect they have had.[5] However, we estimate that students who were members of targeted groups participated in vocational education programs at rates equal to or higher than other students in the school years immediately preceding and following the 1990 amendments. (See fig. 2.)

[5]The Department of Education published regulations for the vocational education program in August 1992. Among other things, the regulations require states to provide supplementary services for targeted groups only to the extent possible through program funds, unless otherwise required by law. Many advocates for the targeted groups believe that the regulations will encourage schools to limit or reduce services for these groups. Our data were collected before the regulations were published.

Figure 2: Estimated Rates of Participation in Vocational Education
(School Years 1990-91 and 1991-92)



Additionally, about half the school districts reported expanding or adding support services for targeted students in school year 1991-92, such as modifying curriculum or purchasing special equipment for disabled students. About 90 percent of such districts reported that the changes were at least partially attributable to the Perkins amendments. Not all change was reported as positive, however. About 10 percent of the districts reported dropping or cutting back services to targeted groups and cited the amendments as at least a partial reason for taking such action.

Progress Needed in Assessing Programs

Two years after the amendments' passage, data are not yet being collected that will allow adequate assessment of vocational education. The Department of Education has in place major portions—but not all—of the data system mandated in the amendments. The system is to inform

national policymakers and provide national data to those responsible for programs at the state and local levels.

Also, as of school year 1990-91, states, local districts, and schools did not maintain sufficient data on program outcomes to assess program effectiveness adequately. In a 1991 survey by the National Center for Research in Vocational Education, about 40 percent of states reported using postgraduation student placement rates as an outcome measure in the past, and 80 percent planned to do so in the future. However, information that schools provided in responding to our survey indicated that placement information is often incomplete; states may have difficulty using it if they want to aggregate placement data to conduct statewide assessments. Nationwide, about 35 percent of schools reported to us that they did not collect placement information for their graduates. Another 15 percent reported that they monitored placement data solely on the basis of students' plans before graduation rather than on their actual postgraduation status. Additionally, in another study, the Center found that response rates to inquiries about student outcomes were sometimes incomplete. The Center also reported that few states had used important outcome measures other than placements, such as occupational competency (18 percent) or academic achievement (12 percent).

Appendix II presents additional details on our observations. Appendix III provides information on the six school districts we visited. Appendixes IV and V summarize responses to the district and school questionnaires.

Agency Comments

The Department of Education commented on a draft of this report. The Department disagreed with a statement in the draft that it had not completed development of the data system mandated in the 1990 Perkins amendments. The Department believes it has completely implemented the required data system and continues to make improvements to it. It noted, for example, that it has recently published vocational education data that previously were unavailable, and it has taken steps to obtain better data on students with limited English proficiency. We revised the report to recognize these efforts. However, the National Center for Research in Vocational Education has pointed out that significant problems in data collection remain: they include major information gaps and shortcomings in existing data collection efforts and undefined data requirements for accountability.

The Department also questioned some of the definitions and interpretations of certain regulations mentioned in the draft. We discussed them with Department officials and made clarifications to the report as appropriate. The Department's comments appear in full in appendix VI.

We are sending copies of this report to the Secretary of Education and other interested parties. Copies will be made available to others upon request.

Please call me on (202) 512-7014 if you or your staff have any questions. The major contributors to this report are listed in appendix VII.

Linda G. Morra
Director, Education and
Employment Issues

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Abbreviations

NAEP	National Assessment of Educational Progress
NCES	National Center for Education Statistics
SCANS	Secretary of Labor's Commission on Achieving Necessary Skills

Scope and Methodology

The 1990 amendments to the Perkins Act require that we conduct a study of the effects of the amendments on the access to and participation in vocational education for students who are disadvantaged, have disabilities, or have limited proficiency in English.[1] Specifically, we are to obtain information such as the extent to which

- these students enroll and participate in vocational education programs;
- vocational education programs have addressed the needs of these students for supportive services, material, and equipment; and,
- services provided to these students are comparable to services provided to students who are not members of targeted groups.

Another issue included in the mandate is the extent to which schools incorporate academics with vocational courses. Because the act specifies the need for access to quality programs, we also obtained information on a variety of other quality indicators.

We obtained the information in this report for school year 1990-91 to use as the baseline for comparison with school year 1993-1994. We are required to issue a final report by July 1, 1995.

For this interim report, we developed one questionnaire for schools and another for their central district offices. The school questionnaire asked for data on overall enrollments, vocational enrollments, and vocational education funding for school years 1990-91 and 1991-92. We asked for detailed information about services to targeted groups and program quality issues for 1990-91 only. At the district level, we also asked for information on initial changes to programs and services offered to students in the first year after the amendments took effect. We sent the questionnaires to a stratified random sample of 2,400 schools and the 1,653 district offices—of 11,987 districts nationwide—associated with the sampled schools. We stratified our sample of schools by four types of schools (comprehensive high schools, vocational schools, special schools for the disabled, and schools for students considered to be at risk of not completing secondary education—known as "alternative" schools). We further stratified our sample of comprehensive and vocational schools by location (urban, suburban, or rural), but we did not further stratify the

[1]The amendments also ask that we obtain information on foster children to the extent practicable. Such information generally was unavailable, however. Only about 6 percent of the schools we surveyed were able to provide information on foster children participating in vocational education. (About 20 percent of the schools reported that they had foster children registered in the school and knew how many there were; and about 30 percent of those schools knew how many foster children participated in vocational education.)

samples of special and alternative schools. We chose our sample of schools from the 20,140 schools nationwide that had students in grades 10-12 or ungraded students.[2] Table I.1 shows the original and adjusted universe and samples of schools.

Table I.1: Universe and Samples of Schools

	Universe size		Sample size	
Type and location of school	**Original**	**Adjusted**	**Original**	**Adjusted**
Comprehensive urban	2,468	2,135	400	346
Comprehensive suburban	2,984	2,826	300	284
Comprehensive rural	11,059	10,617	350	336
Vocational urban	348	246	250	177
Vocational suburban	255	184	200	144
Vocational rural	666	526	300	237
Special school for disabled	1,365	591	300	130
Alternative school	995	942	300	284
Total	**20,140**	**18,067**	**2,400**	**1,938**

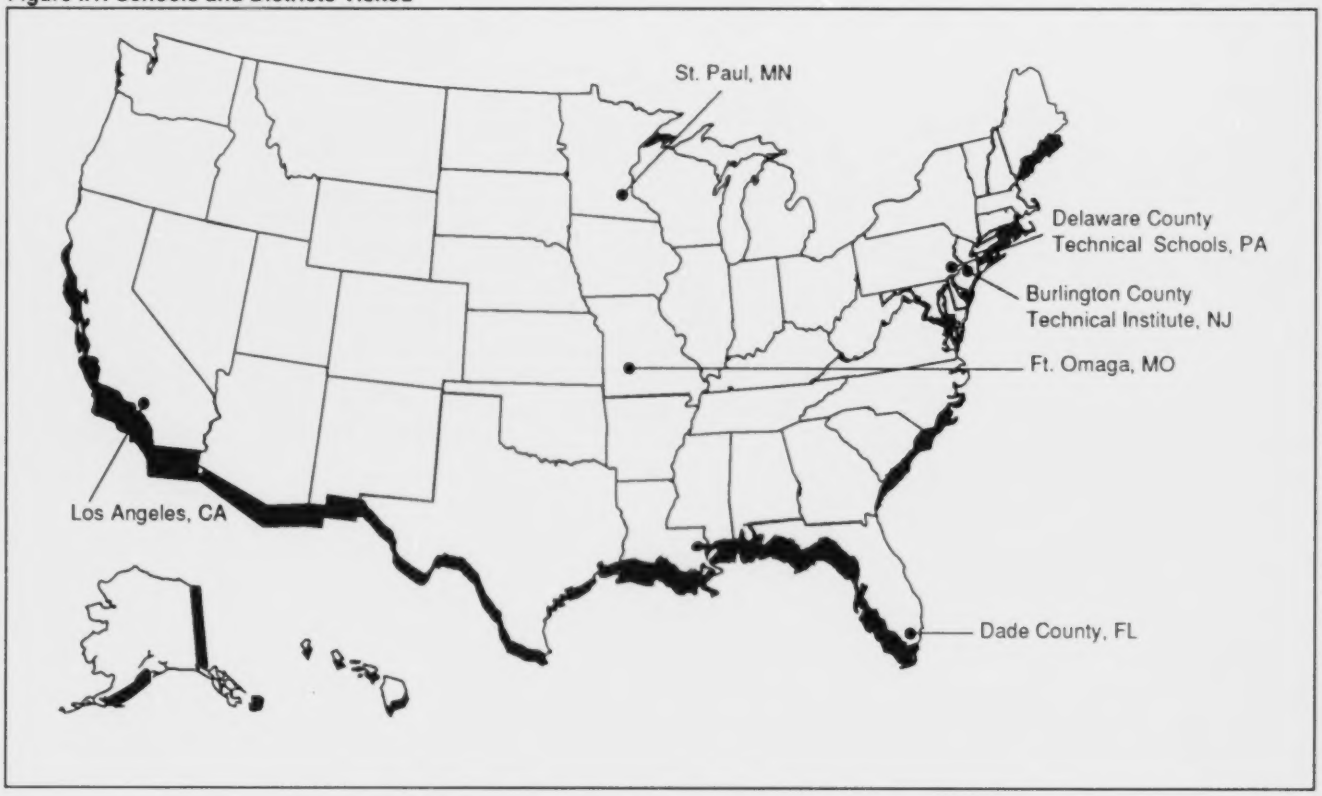
We obtained responses from 85 percent of the schools and 83 percent of the districts surveyed. We did not verify the data provided by respondents except at the schools and districts we visited because the information provided was voluminous and represented estimates in many cases. Because these samples are representative, the statistics we cite on the basis of the surveys are estimates of the population of all schools and districts that would have responded nationwide. We calculated sampling errors for estimates from this survey at the 95-percent confidence level. This means that the chances are about 19 out of 20 that the actual percentage being estimated falls within the range defined by our estimate, plus or minus the sampling error. Generally, the sampling errors did not exceed 4 percentage points at the 95-percent confidence level.

To supplement the information obtained from our surveys, we visited seven schools and the six district offices serving them in six states during school year 1991-92. (See fig. I.1.) We judgmentally selected the districts from our survey responses to provide a cross-section of locations, district sizes, and school types. Because of the act's interest in students with disabilities, we selected schools that reported having such students. We visited the following districts: Los Angeles Unified School District, California; Dade County School District, Florida; St. Paul School District,

[2]The National Center for Education Statistics' database of schools contained 20,140 schools reported to have grades 10-12 or ungraded students. However, responses to our survey indicated that many of them were elementary schools, middle/junior highs, or postsecondary institutions. We adjusted the universe of schools and districts to reflect such situations.

Minnesota; Ft. Osage School District, Missouri; Burlington County Technical Institute, New Jersey; and Delaware County Technical Schools, Pennsylvania.

Figure I.1: Schools and Districts Visited



The legislative mandate directed that our study include other information about students with disabilities, such as (1) the types and severity of handicaps of students enrolled in vocational education and (2) the extent to which they participate in the same vocational education programs as nonhandicapped students.

We expected to obtain most of this information from the Department of Education's National Assessment of Educational Progress (NAEP). That study collected detailed data from student transcripts on student

course-taking patterns for school year 1989-90 and will allow comparison of students with disabilities to other students. Such studies are very resource intensive, and sharing information with us, which NAEP agreed to do, was the most efficient way to obtain the data. However, after our work was well under way, the NAEP assessment schedule was revised. Consequently, the transcript data for school year 1989-90 were not available in time for us to include them in this report. The Department will also conduct a similar study for school year 1993-94. However, it has advised us that data from that study will not be available in time for us to include them in our final report.

The mandate also included questions about the extent to which students with disabilities, their parents, and educators participate in selecting and providing vocational education courses and programs for such students. We could not obtain this information from questionnaires. Accordingly, at the schools we visited, we spoke with district officials, school principals, and counselors about district and school policies for involving such individuals. We also reviewed randomly selected Individualized Education Programs and related documentation to identify who participated in developing the students' programs. These programs are required under the Individuals With Disabilities Education Act and include information on the specific needs of students with disabilities and what educational and other services will be provided to meet those needs.

Secondary School Vocational Education Programs: Status in 1990-91 and Early Signs of Change

Introduction

In school year 1990-91, we estimate that about 11,600 schools collectively offered about 94,000 vocational-technical education programs in fields as diverse as auto mechanics, electronics technology, and health. Districts reported that they provided Perkins funds to about 75 percent of their schools. Vocational-technical education can take place in a variety of settings at the secondary school level. In school year 1990-91, more than 75 percent of the nation's secondary schools were comprehensive high schools;[1] about 80 percent of students enrolled in vocational education programs received their occupational instruction in these schools. About 10 percent of schools specialized in vocational-technical education and served about 17 percent of the vocational students.[2]

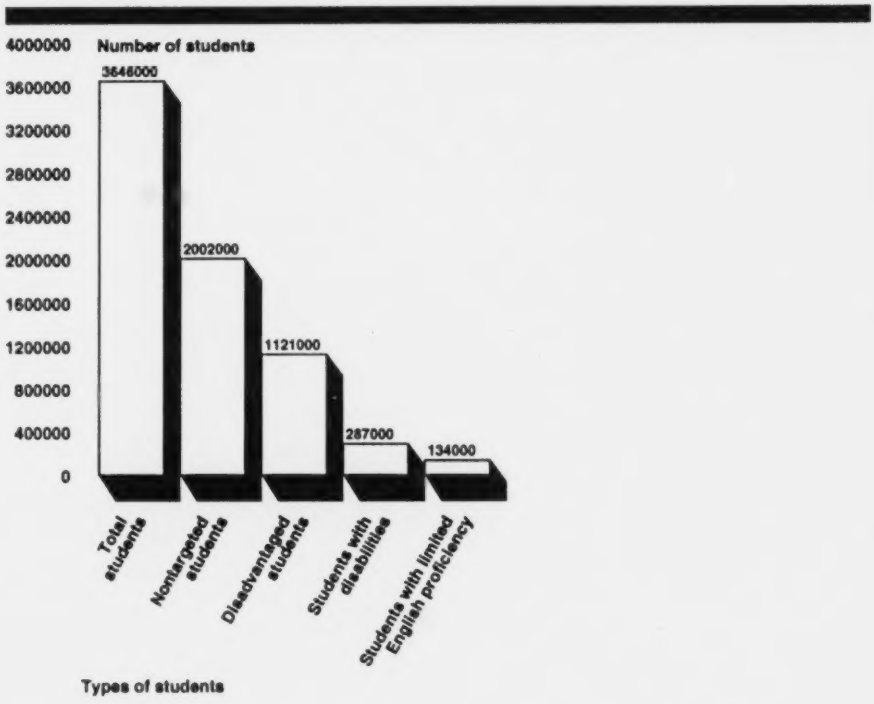
Most of the vocational schools provided instruction to students on a shared-time basis; that is, the students spent part of their day or week at a comprehensive high school for academic instruction and the remainder at the vocational school for their technical training. Some secondary schools operated as full-time vocational-technical institutions where students received both academic and technical instruction at one school. On average, shared-time and full-time vocational schools offered nearly twice as many vocational-technical programs as comprehensive schools.

Nationwide, schools reported that about 3.6 million of 7.5 million students (49 percent) participated in vocational education programs; about 1.5 million (42 percent) of the vocational education students had disabilities, were disadvantaged, or had limited proficiency in English—the targeted groups included in our study. (See fig. II.1.) During school year 1990-91, such students made up 7, 23, and 4 percent of overall secondary school enrollments, respectively. With the exception of students with limited English proficiency, they made up somewhat higher proportions of the enrollment in vocational-technical schools—15, 41, and 2 percent, respectively.

[1]Comprehensive high schools offer academic instruction. Frequently, they also offer vocational education programs.

[2]The remaining 3 percent of students generally attended specialized schools, including schools for the disabled; alternative schools for students who are considered to be at-risk; or other types of institutions, such as juvenile detention centers.

Figure II.1: Estimated Number of Students Participating in Vocational Education Programs (School Year 1990-91)



Note: Estimates for individual student groups do not add to total reported. This is because about 12 percent of schools were unable to provide vocational education enrollment data for one or more student groups.

Schools reported that there were about 100,000 vocational education teachers; more than 80 percent of them had at least a bachelor's degree. Almost all states and school districts required vocational education teachers to have a teaching certificate for their technical field. Most of them also required vocational education teachers to continue their education in their technical field (about 55 percent) or in an educational area (about 65 percent).

The 1990 amendments made key changes to the Perkins Act's funding mechanisms. Originally, the basis for funding distribution was a combination of (1) specific set-asides directed to members of targeted groups and (2) discretionary grants for program improvement. The new law no longer splits funding between program improvement and serving

targeted groups; rather, it requires school districts to improve their programs and at the same time ensure that targeted students have access to these programs. It also requires districts to give priority for Perkins funds to schools or program areas with the largest numbers of students targeted by the act.

The amendments also set out a variety of requirements for education agencies at the federal, state, and local levels concerning assessing programs and improving their quality. Among other things, the amendments required the Department of Education to establish a vocational education data system, including information on targeted populations, by March 1991. The data system's purpose is to provide information to (1) the Congress for policymaking and (2) federal, state, and local officials about program management, administration, and effectiveness. The amendments also required states to develop systems of standards and measures by September 1992 that include performance measures such as placements. The law also requires school districts to evaluate the effectiveness of their programs each year using the standards and measures developed by their state. In submitting their applications for Perkins funds, districts also must report on the number of students in each of the targeted populations.

Quality Indicators Measured

For school year 1990-91, we collected information about vocational education program quality for future comparison with 1993-94 data. The data covered six aspects of vocational programs considered key by the Perkins Act or experts. (See fig. II.2.)

Figure II.2: Characteristics of Quality Vocational Education Programs

School-to-Work Transition Activities
Integration of Academic and Vocational Instruction
Competency - Based Curricula
Certificates of Competency
Links Between Schools and Business
Placement of Graduates

As used in this report, these characteristics mean the following:

School-to-work transition activities, such as "tech-prep" and apprenticeship programs. Tech-prep programs establish a formal link between high school and postsecondary education in a coordinated 4-year curriculum (2 years of high school and 2 years of college) leading to an associates degree or a certificate. Apprenticeships establish a similar relationship with labor unions.

Integration of academic and vocational instruction. This means learning skills in context, that is, applying learning objectives to a real-world environment. For example, a vocational and an academic teacher may teach together so students can see the practical applications of academic concepts.

Competency-based curricula. Such curricula specify for students the knowledge, skills, and abilities that need to be learned to succeed in a particular job.

Certificates of competency. Such certificates indicate the specific skills students have attained in their vocational education programs. They are distinct from a high school diploma.

Links between schools and businesses and other organizations. Community organizations, businesses, or public or private agencies can help schools' vocational education programs in many ways; for example, a company may donate equipment for a vocational program, or its employees may teach in the school.

Placement data. Placement data on high school graduates are another indicator of vocational education program quality. However, only about 50 percent of schools provided these data to us. Because of the low response rate, we cannot generalize beyond the schools that reported.

The following sections contain information on vocational education programs nationally.

Many Quality Components Missing in Most Schools, but Districts Reported That Change Has Begun

As measured by the quality indicators, survey results suggested that, nationwide, most schools need to improve their vocational education programs. In general, relatively few schools had implemented approaches encouraged by the act or recognized by experts as being associated with quality programs. Where they did exist, they often covered only a small number of vocational education programs and/or students.

Limited Use of School-to-Work Transition Activities

Two approaches to school-to-work transition considered to hold great promise for improving students' preparation for work are tech-prep and apprenticeship programs.[3] Before the amendments were passed, however, these programs involved relatively few vocational education programs and students.

In school year 1990-91, 18 percent of schools reported having tech-prep programs; on average, schools with such programs used this approach for about 50 percent of the programs in their schools. Nationwide, the number of students involved was small; only about 8 percent of all vocational education students participated in tech-prep programs. Similarly, the number of schools reporting apprenticeship programs was small; only

[3]The Perkins amendments established a new grant category for tech-prep education programs. In prior years, there was no specific provision for them.

about 4 percent of schools nationwide had such programs, with less than 1 percent of all vocational education students enrolled in them.[4]

None of the districts we visited had tech-prep programs in operation during school year 1990-91.[5] However, local officials in three of the six districts told us about changes in progress to establish tech-prep programs. For example, in addition to the program in Delaware County, Pennsylvania, the Burlington County Institute of Technology in New Jersey and its county community college began planning during school year 1991-92 for an automated manufacturing tech-prep program. The Institute developed the new program in response to rapid growth in high-technology jobs in the area; the program began operation in September 1992 with approximately 40 secondary and 30 adult students.

Another school-to-work transition activity considered to have strong potential is cooperative education/work-study, which combines classroom instruction with work experience and on-the-job training related to a student's career goals. Schools were more likely to have such arrangements than tech-prep or apprenticeships. In school year 1990-91, 61 percent of schools reported having cooperative education or work-study; on average, these schools included 44 percent of their programs in these arrangements. Nationwide, schools reported that 15 percent of all vocational education students participated in such programs.[6]

Efforts to Integrate Academic and Vocational Instruction Were in Early Stages

Experts regard the integration of academic and vocational instruction as critical for improving students' occupational preparation. Survey responses indicated that even before the amendments, some schools had taken steps to integrate instruction. On balance, however, efforts through school year 1990-91 were limited. We asked about several specific methods to integrate instruction. Because it is possible for a school to

[4]In our report, Training Strategies: Preparing Noncollege Youth for Employment in the U.S. and Foreign Countries (GAO/HRD-90-88, May 11, 1990), we reported that less than 2 percent of American high school graduates become apprentices. Apprenticeship programs primarily train adults in their mid-20s, with less than 20 percent of apprentices nationwide under the age of 23.

[5]One district, Dade County, Florida, has apprenticeship programs in five occupational areas, including sheet metal work and refrigeration.

[6]We reported earlier that cooperative education is little used in the United States. In Transition From School to Work: Linking Education and Worksite Training (GAO/HRD-91-105, Aug. 2, 1991), we noted that about 8 percent of high school juniors and seniors were enrolled in cooperative education programs during the 1989-90 school year, based on a survey of state directors of cooperative education. The use reported here is higher, at least in part because they covered more grades (10 through 12) and included work-study programs as well as cooperative education.

employ a mix of teaching strategies, we could not determine from our survey precisely how many programs or students were affected in the aggregate. For the most part, however, schools reported that they used traditional methods to teach required academics. Nontraditional approaches to instruction, such as team teaching by vocational and academic teachers or having academic teachers teach academics in vocational education classes, affected only relatively small proportions of vocational education programs and students. For example, schools reported that only about 4 percent of the 3.6 million vocational education students participated in programs in which the academic and vocational teachers taught as a team. (See table II.1.)

Table II.1: Estimates of Extent to Which Methods to Integrate Academic and Vocational Instruction Were Employed (School Year 1990-91)

Type of program activity	Percentage of schools using method	Percentage of vocational education students
Programs in which academic teacher and vocational education teacher worked together (team teaching)	14	4
Programs in which academic teacher did academic teaching in vocational education class	9	5
Programs in which additional academic training was provided to vocational education teachers	14	8
Programs in which vocational education teacher did academic teaching in vocational education class	48	38
Programs in which each course within that vocational program concentrated on academics	22	17
Programs that gave academic credit for vocational education courses that had high academic content	28	9

Many experts agree that most schools and teachers are unfamiliar with such nontraditional approaches to teaching; however, only about 20 percent of schools reported that they made substantial efforts to help teachers understand and implement an integrated instructional approach in school year 1990-91. Over 50 percent of schools reported that they planned to take additional steps in 1991-92 or later school years to integrate academics with vocational education. All of the districts we visited were in the early stages of this process. Dade County, Florida, for example, had scheduled a multiyear effort to start in 1992-93. The district expected to implement concepts developed by the Secretary of Labor's Commission on Achieving Necessary Skills (SCANS) in 10 to 12 schools initially, and then to add more each year until all schools in the district

have incorporated them.[7] Further, one of the high schools in the St. Paul, Minnesota, school district had participated in a recent research project with the University of Minnesota on integrating vocational and academic instruction. The district planned to apply the strategies learned from the research effort to the district's other high schools.

Limited Use of Competency-Based Curricula and Certificates of Competency

Two related program characteristics increasingly recognized as likely to have positive impacts on vocational education program quality are the use of competency-based curricula and certificates of competency. Many experts believe that competency-based curricula are important to ensure that students are learning the skills needed to perform in the workplace. Although many schools reported using competency-based curricula, survey responses portrayed a striking contrast in the extent to which schools used them. About 30 percent of the schools had no competency-based curricula for any of their vocational education programs in school year 1990-91, while half the schools reported that they had such curricula for all of their programs. However, we were unable to determine from our surveys the quality of the curricula reported to be competency-based. Also, as discussed in the following section, the schools often developed the competencies without input from business.

Experts also consider certificates of competency important because they communicate potential employees' qualifications more clearly to employers and thus increase employer confidence in hiring workers. However, schools did not use certificates extensively in school year 1990-91. Only about 25 percent of schools reported granting competency certificates for any of their vocational programs. We estimated that, nationwide, schools issued certificates of competency for about 20 percent of the 94,000 vocational education programs.

Many School-Business Links Existed, but Could Be Expanded

The great majority of schools—more than 95 percent—reported that businesses and other community organizations provided assistance to their vocational education programs in one or more ways. Such linkages took a variety of forms; for example, some businesses provided

[7]The SCANS task force was directed to advise the Secretary of Labor on the level of skills required to enter employment. Among other things, SCANS concluded that workplace knowledge is made up of two key parts: skills competencies (such as interpersonal skills and the ability to collect and process information) and a skills foundation (including basic reading, mathematics, and thinking skills). The SCANS competencies can be integrated into the core curriculum. For example, a mathematics class could design and carry out a survey, analyze the data in a spreadsheet program, and develop a table and graphic display to communicate the results.

employment opportunities for teachers for professional development or helped schools develop competency standards. (See table II.2.)

Table II.2: Estimates of Extent of Linkages Between Schools and Businesses and Other Organizations
(School Year 1990-91)

Contribution by organization(s)	Percentage of schools involved	Percentage of vocational education programs affected
Teachers spent time working in local industry for professional development	30	16
Industry people taught in the school	27	23
Helped to develop/modify curriculum	48	50
Consulted about skills needed by students in workplace	67	78
Donated money to a vocational education program	27	13
Donated material, supplies, or equipment to a vocational education program	52	26
Made facilities available to students (other than through co-ops)	35	18
Provided positions for work-study, co-ops, or apprenticeships	59	35
Evaluated students for competency attainment	33	23
Helped develop competency standards	34	31
Provided mentor programs or job shadowing	29	15

There are indications, however, that more can be done to expand such linkages. For example, experts believe specific industries, either on a local or national level, should be involved in developing competency standards to ensure that the skills schools teach are the skills employers need. Although nearly 70 percent of schools reported that they consulted with businesses about the skills their students would need in the workplace, only about one-third of schools reported that businesses were involved in developing competency standards.

Our site visits also illustrated the wide variation, and the potential for expansion, in the extent to which business and schools cooperate. For example, several local businesses supported some programs in one school district's area vocational-technical school by providing speakers and information about employment, and judging student technical competitions. In contrast, another district and the local dental association established a more extensive relationship for one of the district's vocational education programs. The association operated dental clinics in

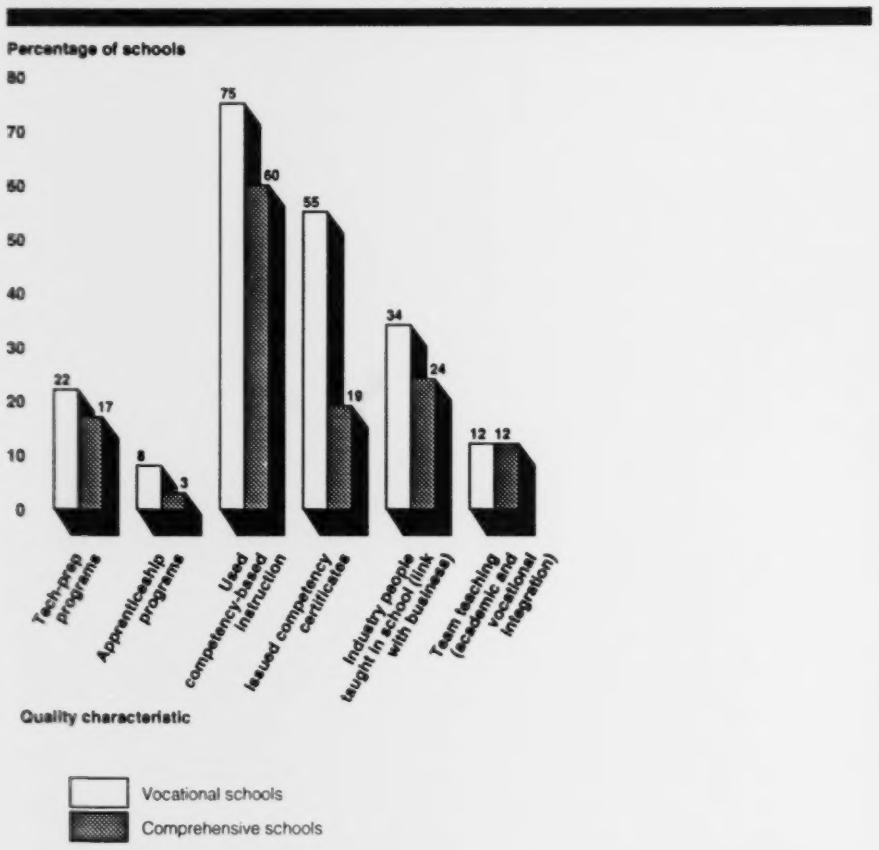
two schools. The dentists donated the clinics' equipment and supplies and provided instruction to the students enrolled in the various dental occupational specialties.[8] The arrangement also served as a direct conduit for program graduates to get jobs.

Vocational Schools Were More Likely to Have Quality Characteristics

Generally, vocational-technical schools were more likely than comprehensive schools to have the "quality" characteristics we studied. For example, although only an estimated 19 percent of comprehensive schools nationwide reported that they granted certificates of competency to their vocational education students in school year 1990-91, 55 percent of the vocational schools did so. (See fig. II.3.) However, as previously noted, only about 17 percent of vocational students received their technical instruction in schools that specialized in vocational-technical education, so the schools' impact on vocational education quality nationwide was limited.

[8]The dentists also donated their time to provide free dental service to low-income residents in the areas served by the clinics.

Figure II.3: Estimates of Selected Quality Characteristics in Vocational and Comprehensive Schools (School Year 1990-91)



Limited Placement Data Were Available

Another key indicator of program quality is placement for program graduates, that is, whether they go on to postsecondary schooling, enter the workforce or military service, and so on. The law requires states to assess program quality and includes placements as a suggested criterion. We estimated that only about 50 percent of schools had placement data; thus, we could not generalize beyond the specific schools that reported.[9] Those schools reported that vocational education graduates went to 4-year colleges less frequently than nonvocational students and more frequently went directly into jobs; however, the rates at which the two groups entered military service or were unemployed generally were similar. Table II.3 shows placement information for survey respondents.

[9]Approximately 80 percent of the schools with placement data reported them for the graduating classes of 1990 or 1991. The remaining 20 percent of the schools reported data for previous years.

Table II.3: Placement Data for Reporting Schools

Numbers in percent

	Comprehensive schools, all graduates			Comprehensive schools, vocational graduates			Vocational schools		
Seniors' postgraduation status	**Urban**	**Suburban**	**Rural**	**Urban**	**Suburban**	**Rural**	**Urban**	**Suburban**	**Rural**
4-year college	38	46	37	27	28	23	20	12	15
Community college or postsecondary technical training	25	25	26	25	28	28	17	19	15
Work	16	15	21	27	24	31	34	49	48
Military	5	4	5	6	5	6	6	4	5
Unemployed	5	2	4	5	4	5	5	8	9
Unknown	11	7	7	10	11	7	19	8	8
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Note: The number of schools reporting in each cell ranged from 29 to 200; the overall maximum number of schools reporting was 661. Percentages may not add to 100 because of rounding.

School Districts Reported Making Changes

Most school districts reported making at least some changes in their programs and services between school years 1990-91 and 1991-92. They often reported that the changes were due at least partially to the changes in the Perkins Act. Most frequently, they told us they improved curriculum (63 percent) or upgraded their teachers' skills (54 percent). (See table II.4.) For example, the Los Angeles, California, school district conducted staff training for integrating academic and vocational instruction and began to refine career areas in the high schools to improve organized sequences of courses.

Table II.4: Reported Changes in Vocational Education Programs (From School Year 1990-91 to 1991-92)

Numbers in percent

			"Yes" answers: Why change occurred[a]		
	Did change occur?		Change in Perkins funding formula	Change in Perkins Act legislation	Other reason
Type of change	No	Yes			
Added program(s)	70	30	85	88	98
Dropped programs	81	19	94	82	94
Expanded existing program(s)	58	42	80	80	87
Transferred program(s) among schools in this district	95	5	[b]	[b]	[b]
Took on programs from other districts	98	2	[b]	[b]	[b]
Transferred program(s) to other district(s)	95	5	[b]	[b]	[b]
Cut back existing program(s)	80	20	93	85	86
Kept program(s) but funded with state/local funds	65	35	83	72	74
Upgraded skills of teachers	46	54	78	82	87
Improved curriculum	37	63	77	80	92

[a]For many districts, more than one factor contributed to reported changes; thus, responses exceed 100 percent.

[b]Data not reported for these categories because we received an insufficient number of "yes" responses to allow generalization.

Funds Not Concentrated Into Fewer Schools, but Participation in Consortia Increased

We estimate that the number of schools receiving Perkins funds did not significantly change after the amendments took effect. In contrast, concentration in the form of consortia increased substantially at the district level.

Little Change in Extent of Concentration at School Level

Nationwide, neither the number of districts that concentrated Perkins funds nor the number of schools funded changed substantially.[10] (See table II.5.) For example, we estimated that 44 percent of larger districts—those with six or more secondary schools—concentrated their Perkins funds in

[10]In part, this is because over 80 percent of school districts nationwide had only one secondary school; thus, those districts had no opportunity to consolidate Perkins funding to fewer schools. It is possible these and other districts could concentrate on a limited number of vocational education program areas within schools. However, it was beyond the scope of our survey to determine whether or the extent to which this occurred.

school year 1990-91 to some extent—that is, at least one school in the district did not receive Perkins funds. Little changed in the year after the amendments. Fifty-five percent of the larger districts concentrated their Perkins funds to some extent. The number of schools the districts funded decreased by 11 percent, from 81 to 72 percent of their schools.

Table II.5: Estimated Concentration of Perkins Funding (Comparison of School Year 1991-92 to 1990-91)

District size (number of secondary schools)	Number of districts (of a given size)	Percentage of districts concentrating Perkins funds		Number of schools receiving Perkins funds	
		1990-91	1991-92	1990-91	1991-92
2-5	1,338	46	51	3,215	2,990
6-10	248	42	52	1,506	1,308
11-15	113	42	52	1,090	1,067
16-20	24	63	71	322	288
More than 20	36	47	72	1,064	898
All districts	**1,759**	**45**	**52**	**7,197**	**6,551**

There were substantial differences in districts' responses to the amendments' concentration requirement, however. For example, a large urban district we visited—Los Angeles, California, Unified School District—funded 17 of its 49 secondary schools in 1991-92 compared to all 49 in 1990-91. District officials told us they restricted the number of schools funded to ensure that improvement efforts would be of sufficient size and scope to be effective. They planned to use the Perkins Act amendments as the impetus to restructure vocational education districtwide, starting with the 17 schools receiving Perkins funding.

In contrast, about 40 percent of the larger districts provided Perkins funds to all their schools in both the year before and the year after the amendments. For example, a district in our sample provided Perkins funds to all 34 of its secondary schools in both years. Our sample included several of the district's schools, and the proportion of targeted students reported ranged from 5 to 70 percent. We contacted the district to determine why the number of schools receiving Perkins funds remained unchanged. District officials told us they concentrated funds within schools, providing the funds to the program areas in each school that had the highest concentrations of targeted students. However, they were unable to provide supporting documentation, such as enrollments in vocational education program areas for individual schools.

About 13 percent of the larger districts increased the number of schools that received funds. Our survey did not determine the reasons for this. However, one district we visited—Dade County, Florida—funded fewer secondary schools in the year after the amendments but provided funds to several of its middle schools for student assessment, teacher training, curriculum development, and exploratory courses.

Increased Participation in Consortia

The $15,000 minimum funds allocation requirement seemed to have had an impact at the district level. In the 1990-91 school year (before the amendments), about one-third of the school districts nationwide reported participating in consortia to provide vocational education. With the amendments in place, participation in consortia almost doubled (to 61 percent) in 1991-92.

For example, one district we visited—Delaware County, Pennsylvania, Technical Schools—formed a consortium in the 1991-92 school year with 10 of the 15 districts that send students to its shared-time vocational-technical schools. The participants pooled $370,000 in Perkins funds. An official from a sending district whose allocation would have been less than the $15,000 funding threshold believed his district has benefited from the consortium because the district now has programs and activities that were unavailable previously. These include access to a career program that is linked with the local community college and the establishment of a career center at the district high school that helps students assess their strengths and weaknesses and choose appropriate career areas.

Little Change in Targeted Group Participation in Vocational Education

The House and Senate committees writing the amendments recognized that changing the Perkins Act to remove the emphasis on specific set-asides for targeted groups was controversial, and there was congressional concern that targeted groups should have better access to high-quality vocational education. Because data are currently available for only 1 year following the amendments' passage, it is too early to tell what effect they have had. However, students in targeted groups participated in vocational education at rates equal to or higher than nontargeted students in both years for which we collected data. Availability of various support services is also important to targeted group success in vocational education; most schools and districts reported offering a variety of support services to students in targeted groups.

Participation in Vocational Programs

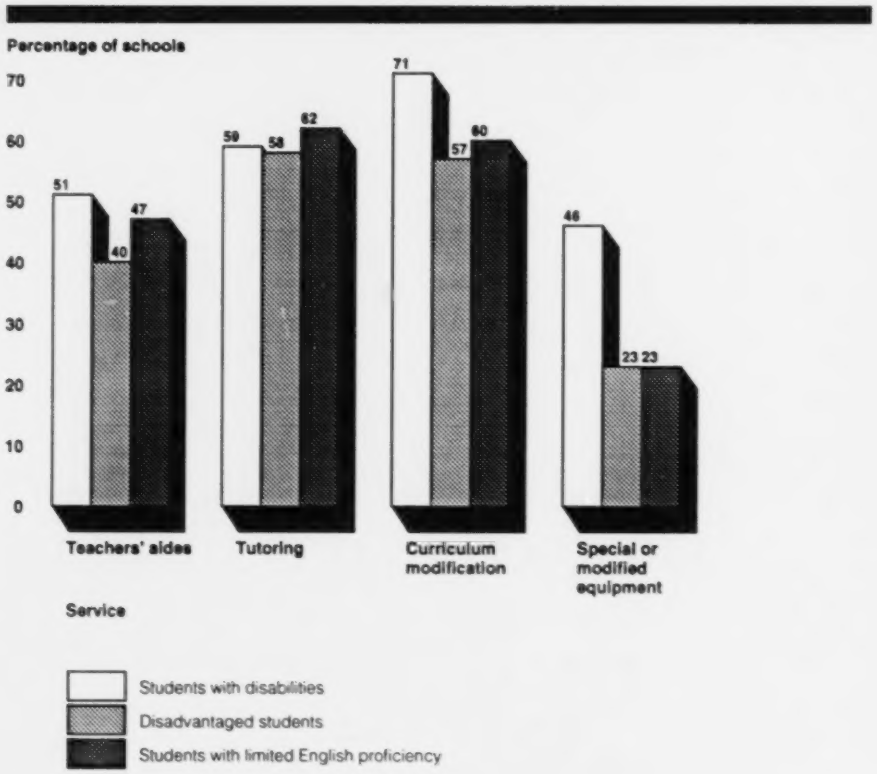
An estimated 58 percent of students who had disabilities and 65 percent of those who were disadvantaged participated in vocational education in school year 1990-91, compared to 46 percent of nontargeted students. Participation rates in vocational education for these two groups remained relatively higher than for nontargeted students in 1991-92. Students with limited English proficiency participated in vocational education at about the same rate as nontargeted students in both years. Overall enrollment in vocational education by both targeted and nontargeted students did not change significantly between the 2 years.

Availability of Support Services

In school year 1990-91, schools reported offering a wide variety of services to their students in vocational education. Most schools offered general services, such as counseling/guidance (about 90 percent) and evaluation/assessment (about 75 percent), while relatively few schools waived tuition or fees (about 15 percent) or offered day care for the children of students (about 7 percent). But where schools offered these services, they were available to students in targeted groups about as often as to other students.

In addition, schools provided other services, which could be considered more specialized, to students in targeted groups. For example, about 50 percent of schools that reported having vocational education students with limited proficiency in English told us they offered teachers' aides for such students, compared to about 25 percent of schools that offered this service to nontargeted students. (See fig. II.4.)

Figure II.4: Estimated Percentage of Schools Providing Selected Services to Vocational Education Students
(School Year 1990-91)



Note: Estimates in each case are for the schools reporting that students from each group participated in vocational education.

Our survey did not determine the extent to which schools met the need for any specific special service. However, officials at the schools we visited told us that they provided services if needed. For example, one district said that it did not offer readers for the blind because the school had no blind students but that it could readily provide such service through the county special services unit if needed.

About half of the school districts reported that they added or expanded services for students in targeted groups between school years 1990-91 and 1991-92, and they attributed the increases at least partially to the Perkins Act amendments. (See table II.6.) For example, Dade County, Florida, used

or planned to use Perkins funds to assist students with disabilities in two ways: the district increased the number of specialists who help disabled students make the transition from school to work, and it planned to start a program to conduct vocational assessments of disabled students in 7th grade to help them with their career preparation.

Table II.6: Reported Changes in Vocational Education Services for Targeted Students (From School Year 1990-91 to 1991-92)

Numbers in percent

			"Yes" answers: Why change occurred[a]		
	Did change occur?		Change in Perkins funding formula	Change in Perkins Act legislation	Other reason
Type of change	No	Yes			
Added service(s) for special populations	54	46	88	92	68
Dropped service(s) for special populations	90	10	98	88	73
Expanded service(s) for special populations	48	52	93	93	69
Transferred service(s) for special populations among schools in this district	94	6	[b]	[b]	[b]
Took on service(s) for special populations transferred from other district(s)	96	4	[b]	[b]	[b]
Transferred service(s) for special populations to other district(s)	96	4	[b]	[b]	[b]
Cut back service(s) for special populations	91	9	91	97	60

[a]For many districts, more than one factor contributed to changes; thus, response percentages exceed 100.

[b]Data not reported for these categories because we received an insufficient number of "yes" responses to allow generalization.

Involvement by Parents and Others in Disabled Students' Education Programs

We cannot comment on a national basis regarding the involvement of educators and the parents of students with disabilities in developing and implementing Individualized Education Programs for such students, because we could not obtain such information using questionnaires. However, at the limited number of districts and schools we visited, records indicated that appropriate school officials, such as vocational and special education teachers and counselors, participated in developing the students' programs. In the view of school officials, however, parental involvement varied greatly. Some parents, they said, played an active role in the selection of their children's vocational education courses and programs; other parents reportedly had little involvement.

Progress Needed in Assessing Programs

By amending the act to require states and school districts to continuously assess the performance of vocational education programs, the Congress sent a clear message that it placed importance on accountability and outcomes.[11] But the ability to evaluate programs for improvement is heavily dependent on the availability of data, and progress is needed in developing such information at all levels. In school year 1990-91, the information on vocational education students and programs that was available for accountability and improvement was frequently incomplete, including data for the targeted populations.

Department of Education's Data Collection Improved, but Gaps Remain

Although the Department of Education has taken steps to improve vocational education data collection since the Perkins amendments, gaps still remain in the data available for policymakers and administrators. To fulfill its mandate, the Department is extracting data from existing general purpose education databases and other available studies. The act specifies that the Department should take this approach to the extent practicable, rather than developing a data system unique to vocational education. The Department reported taking several steps to improve the data available. For example, the National Center for Education Statistics (NCES) has recently published vocational education data in summary form that was unavailable previously, and it is planning to provide more survey coverage of students with limited English proficiency.

But there are gaps in the data. The Department's Office of Vocational and Adult Education and NCES, in response to the Perkins Act mandate to establish the data system, contracted with the National Center for Research in Vocational Education to conduct a study of national data needs for vocational education. The study's purpose was to advise the Department on the design of systems for collecting and reporting information on vocational education. The study, not yet issued at the time of our review, acknowledged that major parts of a national data system are already in place and that coordination of federal data collection efforts has improved. However, it also pointed out that several significant problems remain. In the Research Center's view, these include the following:

- Major information gaps and shortcomings in existing data collection exist. For example, there is inadequate information available for some of the targeted populations and virtually no information on state and local expenditures for vocational education or on facilities. Further, because the

[11]In our report, Vocational Education: Opportunity to Prepare for the Future (GAO/HRD-89-55, May 10, 1989), we reported that the Council of Chief State School Officers and most state vocational education directors also agreed on the need for national vocational education data.

timing of existing surveys does not always coincide with the cycle for reauthorizing federal vocational law, information that could be important in evaluating the impact of the Perkins Act probably will not be available.

- Data requirements for accountability purposes are somewhat undefined. For example, the desirability of collecting and reporting data for individual states is considered a major issue; however, the sample sizes of most national surveys are not large enough to provide state-specific data.

The Research Center's report should provide the Department with a better understanding of its data needs and help it set priorities for data collection.

NCES is providing some of the needed data from transcript studies of graduating high school students. NCES has pointed out that transcript studies are much more accurate indicators than state or district reports in determining the extent and sequence of students' vocational education course-taking. But there are potential difficulties to this approach. For example, neither of the two most recent transcript studies (conducted in 1987 and 1990) identified economically disadvantaged students, a major group targeted by the Perkins Act. Moreover, data collection and analysis for the 1990 transcript study—which included students with disabilities—were delayed for about 18 months because of competing priorities and limited resources.[12]

In another attempt to obtain data for program management, the Department's Office of Vocational and Adult Education is planning to extract data from annual "performance reports" submitted by the states. However, this effort is still in its early stages, and it is uncertain to what extent it will tie in with other efforts the Department may undertake when the Research Center's study is issued.

Progress Needed in State and Local Data Collection Efforts

A survey of the states conducted by the National Center for Research in Vocational Education for the Department of Education in mid-1991 showed that a minority of states had information on the outcome measures needed to fulfill the Perkins mandate for evaluating secondary school vocational education programs using performance standards and measures. The survey's authors concluded that about half of the states were not collecting or assessing such information and were starting from

[12]NCES has undertaken another transcript study of 1992 graduates that will describe students' vocational education course-taking patterns. The samples of students with disabilities and with limited English proficiency were increased in this study; it will also identify economically disadvantaged students. NCES expects to have data from this study available in August 1993.

scratch in developing performance standards and measures. For example, only 36 percent of the states that reported using performance measures and standards in the past had information on occupational competencies, and only 24 percent had information on academic achievement.

Twenty-one states also reported to the Research Center that they had used graduates' placements as an outcome measure in the past, and 42 planned to use such information to satisfy the Perkins amendments' evaluation mandate. Many consider placement information a critical outcome measure because it indicates how well prepared students are for work or additional education. For example, about two-thirds of the districts in our survey reported that they used placement information as an indicator of vocational education program quality in school year 1990-91. However, there is little assurance that such data were sufficiently complete to serve as a reliable measure for assessing program quality. This is because about 35 percent of the schools reported that they did not track placement information for their graduates. Further, about 25 percent of schools that reported placement information relied solely on students' plans before graduation—in our view, a method that is less likely to provide reliable information than obtaining students' actual post-graduation placement status.[13]

The difficulty we experienced in obtaining placement data indicates that there is a need for states and districts to improve data collection if they plan to use such data for assessments.[14]

The 1990 amendments emphasize the need to provide quality vocational education programs for students who are members of groups targeted by the act. Despite the fact that the Perkins Act and Department of Education regulations have had long-standing requirements for school districts to report on the number of students in targeted groups, about 12 percent of schools were unable to provide us information on enrollments for one or more of such student groups participating in vocational education. Further, placement information is a key indicator of program quality for

[13]Additionally, even when schools followed up on students after graduation, they may have been unable to obtain complete data. For example, the National Center for Research in Vocational Education visited several states as part of its study of vocational education data needs. In those states, response rates to inquiries about student outcomes ranged from about 25 to 100 percent.

[14]In commenting on our report, the Department noted the difficulty and expense of collecting placement data at the local level, and it informed us of steps the Department is taking to obtain better data from the states. While they are important, the Department's actions relate to national-level data and will not help local districts and schools obtain placement data. If states establish placement as a key measure by which districts are to assess program performance, lack of local data could be a significant problem.

them as well as nontargeted students. However, about 35 percent of the schools that provided placement data were unable to provide such information for either nontargeted students or one or more of the targeted groups.

Information on School Districts GAO Visited

The following tables provide statistical information on vocational education funding, allocations of Perkins Act funds, and student enrollments for the six school districts we visited.

Table III.1: Estimated Vocational Education Funding in Districts GAO Visited (School Years 1990-91 and 1991-92)

District	Perkins Act	Other federal	State and local	Total
School year 1990-91				
Los Angeles, CA	$3,499,000	$4,000,000	$22,486,000	**$29,985,000**
Dade County, FL	1,718,000	1,151,000	130,090,000	**132,959,000**
St. Paul, MN	77,000	[a]	[a]	[a]
Ft. Osage, MO	55,000	0	945,000	**1,000,000**
Burlington County, NJ	147,000	219,000	13,431,000	**13,797,000**
Delaware County, PA	139,000	0	3,451,000	**3,590,000**
School year 1991-92				
Los Angeles, CA	5,106,000	4,900,000	20,014,000	**30,020,000**
Dade County, FL	3,642,000	1,261,000	56,758,000	**61,661,000**
St. Paul, MN	92,000	[a]	[a]	[a]
Ft. Osage, MO	75,000	0	925,000	**1,000,000**
Burlington County, NJ	194,000	240,000	15,956,000	**16,389,000**
Delaware County, PA	49,000	0	3,637,000	**3,686,000**

[a]Data unavailable.

Table III.2: Allocation of Perkins Act Funds in Districts GAO Visited (School Years 1990-91 and 1991-92)

	Number of schools funded	
District	**1990-91**	**1991-92**
Los Angeles, CA	49	17
Dade County, FL	20	16[a]
St. Paul, MN	8[b]	8[b]
Ft. Osage, MO	2	2
Burlington County, NJ	2	1
Delaware County, PA	2	0[c]

[a]Plus 20 middle schools.

[b]Plus 8 junior high schools.

[c]The vocational district is part of a consortium and used all of its 1991-92 Perkins funds for consortium activities.

Table III.3: Estimated Total Student Population in Schools GAO Visited (Grades 10-12 for School Year 1990-91)

School and district	Students with disabilities	Disadvantaged students	Students with limited English proficiency	Students not in special populations
Garfield Senior High School, Los Angeles	94	3,100	437	0
American Senior High School, Dade County	122	190	247	2,770
Southridge Senior High School, Dade County	182	247	8	2,471
Central Secondary School, St. Paul	78	390	56	730
Area Vocational-Technical School, Ft. Osage	46	143	0	270
Westampton Campus, Burlington County	116	166	0	215
Folcroft Campus, Delaware County	63	36	0	550

Table III.4: Estimated Vocational Student Population in Schools GAO Visited (Grades 10-12 for School Year 1990-91)

School and district	Students with disabilities	Disadvantaged students	Students with limited English proficiency	Students not in special populations
Garfield Senior High School, Los Angeles	14	1,260	185	0
American Senior High School, Dade County	55[a]	41[a]	33[a]	555[a]
Southridge Senior High School, Dade County	64	247	8	1,606
Central Secondary School, St. Paul	35	[b]	2	[b]
Area Vocational-Technical School, Ft. Osage	46[c]	143[c]	0	270[c]
Westampton Campus, Burlington County	116[d]	166[d]	0	215[d]
Folcroft Campus, Delaware County	63[c]	36[c]	0	550[c]

[a]Minimum estimate; school did not have complete data for vocational students.

[b]Information not available.

[c]Shared-time vocational school; all students are vocational students.

[d]Full-time vocational school; all students are vocational students.

Summary of Responses to GAO's Survey of School District Vocational Education Programs

Excerpt from the Carl D. Perkins Vocational and Applied Technology Education Act Amendments of 1990 (Public Law 101-392)

REQUIREMENT FOR GAO STUDY

Sec. 423 (3)(A) The General Accounting Office shall conduct a 3-year study, using representative samples, of the effects of the amendments made by title II of the Carl D. Perkins Vocational and Applied Technology Education Amendments of 1990 on the access to and participation in vocational education of disadvantaged students, students with handicaps, students of limited English proficiency, and to the extent practicable, foster children.

(B) The study shall include consideration of issues such as--

(i) the proportion of students described in paragraph (1) who are enrolled in vocational education programs during the first 3 program years to which the amendments apply compared to the program year preceding such years;

(ii) the number of such students who enroll in vocational education during the period of study;

(iii) the number of such students who participate in vocational education programs that lead to an occupational skill or job placement;

(iv) the extent to which academics are incorporated with vocational education courses;

(v) the manner in which vocational education programs have addressed special needs of such students for supportive services, material, and equipment;

(vi) the comparability of vocational education services provided such students with vocational education services provided to students who are not members of special populations; and

(vii) in the case of students with handicaps--

(I) the types and severity of handicaps of such students who enroll in vocational education programs;

(II) the extent to which such students participate in the same vocational education programs as students who do not have handicaps;

(III) the number of such students with individualized education programs [IEPS] developed under section 614(a)(5) of the Education of the Handicapped Act who have IEPS that include vocational education programs;

(IV) the extent to which special personnel such as special education personnel or vocational rehabilitation personnel assist in the selection and provision of vocational education programs with respect to such students;

(V) the extent to which such students and their parents are involved in selecting vocational education courses and programs;

(VI) the number of such students who have returned to secondary vocational education programs after dropping out of or formally exiting the local education system; and

(VII) the ages of such students.

U.S. GENERAL ACCOUNTING OFFICE
Survey of School District Vocational Education Programs

INTRODUCTION

With the enactment of the Carl D. Perkins Vocational and Applied Technology Education Act Amendments of 1990 (PL 101-392), the Congress mandated that the U. S. General Accounting Office conduct a study of vocational education and the Perkins Act (see facing page). As part of this study, we are surveying schools and school districts to gather information about vocational education participation and funding.

The purpose of this questionnaire is to ascertain your district's experiences with vocational education and the participation of special populations for the 1990-1991 and 1991-1992 school years. We will conduct a similar survey of school districts in 1994.

INSTRUCTIONS

This questionnaire focuses on vocational education funding and programs at the school district level. Your school district has also been sent one or more questionnaires for individual school(s) in our nationwide sample. We ask that you forward the school questionnaires to the schools that are listed on the labels on each of the school questionnaires. Your district may find it more convenient to answer some of the questions in the second questionnaire about the individual school(s), such as those on vocational education funding, rather than have the schools answer.

Because there are many schools, and many different types of programs and courses offered under the general title of "vocational education" we are using the definition written into the 1990 Perkins Act amendments. We are defining vocational education as "organized educational programs offering a sequence of courses which are directly related to the preparation of individuals in paid or unpaid employment." The term special populations includes the disabled (handicapped), disadvantaged, and those with limited English proficiency.

We are excluding from this questionnaire personal growth or exploratory courses that are not part of a sequence leading to an occupational skill. A glossary of other important terms appears at the end of this questionnaire (page 10).

We realize that your time is very limited, and that in order to answer all of the questions you may need to consult with other people. Please designate one person to have overall responsibility for completing this questionnaire, and provide the following information so we can call that person to clarify information if necessary.

Name:_____

Title:_____

Phone No._____

If you have any questions about this survey, or GAO's overall study, please call Tom Hubbs or Brenda Lindsey-Johnson of our Philadelphia Regional Office, at 215-574-4000.

Please return this questionnaire in the accompanying postage paid envelope within **20 working days** of receipt to:

Tom Hubbs
U.S. General Accounting Office
Suite 760
841 Chestnut Street
Philadelphia, PA 19107

We appreciate your help in completing this questionnaire.

Note: The adjusted sample size for this survey was 1,497 school districts. 1,249 of these districts returned the questionnaire. Not all responded to every item, however. The "n" shown for each item denotes the number of school districts that responded to that item.

Percentages noted here for each item are national estimates. Unless otherwise indicated, numbers of students, schools, etc. presented are estimates of the total number across all school districts in the U.S.

1. In total, how many (1) secondary schools containing at least grade 10, (2) secondary level schools for ungraded students, and (3) secondary level schools for "at risk" students were in your school district in the 1990-1991 school year? (ENTER NUMBER) ***(n=1,184)***

   17,222 schools

2. Did your school district (A) receive a Perkins Act funding notice and (B) use (or plan to use in the 1991-1992 school year) Perkins Act funding for vocational education for the following school years? (CHECK YES OR NO IN EACH COLUMN FOR EACH SCHOOL YEAR)

School Year	Receive Funding Notice? (A)		Use Funding? (B)	
	Yes	No	Yes	No
1. 1990-1990	***(n=1,183)*** ***82%***	***18%***	***(n=1,161)*** ***72%***	***28%***
2. 1991-1992	***(n=1,180)*** ***81%***	***19%***	***(n=1,152)*** ***74%***	***26%***

3. How many schools in your district received (or expect to receive in 1991-1992) funds allocated by the Perkins Act (Perkins funds) during each of the following school years ? (ENTER NUMBER; IF NONE, ENTER '0') ***(n=1,189)***

   1. 1990-1991 ***13,228*** schools

   2. 1991-1992 ***12,820*** schools

4. In the table below, for each year listed, please provide your best estimate of (A), the total funding, from all sources, your district received to cover costs such as personnel, benefits, capital facilities, equipment, supplies, and other materials for vocational education and the amount that was provided by (B) Perkins Act funding, (C) other federal funds, (such as JTPA), (D) state, or (E) local governments. (ENTER AMOUNTS; IF NONE ENTER '0')

Year	Total Yearly Funding for Vocational Education in Your District (A)	Perkins Act Funding for Your District (B)	Other Federal Funding for Your District for Vocational Education (C)	Amount of State Funding for Your District for Vocational Education (D)	Amount of Local Funding for Your District for Vocational Education (E)
1. 1990-1991	$	$	$	$	$
2. 1991-1992	$	$	$	$	$

Note: Responses to question 4 are not presented because, for one or more categories, many districts were unable to provide an estimate of the funding they received.

5. How many of the secondary level schools in your school district provided vocational education programs (that is, sequence of courses) in the 1990-1991 school year? (ENTER NUMBER) ***(n=1,198)***

14,730 schools

6. Did any secondary school students from your school district participate in vocational education programs (that is, a sequence of courses) at other school districts in the 1990-1991 school year? (CHECK ONE) ***(n=1,176)***

1. *37%* Yes---->(GO TO QUESTION 8)

2. *63%* No

7. Did you answer '0' to question 5? (CHECK ONE) ***(n=768)***

1. *18%* Yes----> (STOP! PLEASE RETURN THIS QUESTIONNAIRE)

2. *82%* No-----> (GO TO QUESTION 8)

8. Consider the requirement in the 1990 amendments to the Perkins Act that federal funds be used to improve vocational education programs, with the full participation of members of special populations, at a limited number of sites or for a limited number of program areas.

With regard to this requirement, what allocation method(s) did your district choose for the 1991-1992 school year? (CHECK ALL THAT APPLY) ***(n=1,088)***

37% Chose school(s) that served a concentration of special populations in vocational education.

22% Chose school(s) where the vocational education programs were most in need of improvement.

29% Chose program(s) throughout the district that were most in need of improvement.

15% Chose school(s) with new program(s) that was/were needed to meet demands in the local area.

27% Chose to allocate some or all funds to an area vocational school or community college.

27% Other. Please describe

_____
_____
_____
_____
_____

9. For the (A) 1990-1991 and (B) 1991-1992 school years, which of the following did your district do (or plan to do), with regard to its Perkins allocation? (CHECK ALL THAT APPLY FOR EACH SCHOOL YEAR) ***(n = 1,109)***

Action Taken	1990-1991 School Year (A)	1991-1992 School Year (B)
1 No funding for this year	*15%*	*12%*
2 Declined funding	*4*	*3*
3 Used some or all of the funds	*66*	*56*
4 Participated in a consortium or other formal arrangement with other school district(s) to provide vocational education	*25*	*48*
5 Turned over some or all of the money to area vocational education school or community college	*12*	*22*
6 Applied for and/or received a waiver from $15,000 threshold	*1*	*2*
7 Other (PLEASE SPECIFY) _____ _____ _____	*2*	*3*

10. Did your school district participate in a consortium or other formal arrangement for vocational education in either the 1990-1991 or 1991-1992 school years? (CHECK ALL THAT APPLY.) ***(n=1,111)***

35% Yes, the 1990-1991 school year

61% Yes, the 1991-1992 school year

37% No-----> (GO TO QUESTION 12)

11. Please indicate the total number of districts involved in that consortium or other formal arrangement for each school year. (ENTER NUMBERS)

(n=422)
1. 1990-1991: this district plus ***7.7 mean*** other school districts

(n=531)
2. 1991-1992: this district plus ***9.6 mean*** other school districts

12. For (A) the 1990-1991 school year, and (B) the 1991-1992 school year, please estimate the amount of your district's Perkins funding spent (or planned to be spent) for each of the following (if you belong to a consortium, estimate the share of your district's funds used for each of the following). (ENTER AMOUNTS; IF NONE, ENTER '0')

	Your District	
Uses of Your District's Perkins Funds	1990-1991 (A)	1991-1992 (B)
1. Hire additional staff	$	$
2. Teacher salaries and benefits	$	$
3. Teacher education/professional development	$	$
4. Curriculum development	$	$
5. Supplies/texts	$	$
6. New equipment	$	$
7. Other (PLEASE SPECIFY) _____ _____ _____ ___	$	$
8. Total---------->	$	$

Note: ***Responses to question 12 are not presented because they were determined to be unreliable.***

13. For (A) the 1990-1991 school year, and (B) the 1991-1992 school year, please estimate the amount of your district's Perkins funding spent (or planned to be spent) for each of the following (if you belong to a consortium, estimate the share of your district's funds used for each of the following). (ENTER AMOUNTS; IF NONE ENTER '0')

	Your District	
Uses of Your District's Perkins Funds	1990-1991 (A)	1991-1992 (B)
1. Program(s) that existed in the prior year (excluding support services for special populations)	$	$
2. New program(s) (excluding support services for special populations)	$	$
3. Support services for special populations	$	$
4. Other (PLEASE SPECIFY) _____ _____ _____ ___	$	$
5. Total---------->	$	$

Note: Responses to question 13 are not presented because they were determined to be unreliable.

14. Please indicate if changes in your district's vocational education programs and services occurred between the 1990-1991 school year and the 1991-1992 school year, and whether these changes resulted from (A) changes in the Perkins Act funding formula, and/or (B), changes in the Perkins Act law, or (C) if the changes resulted for some other reason? (CHECK ALL THAT APPLY)

Type of Change from 1990-1991 to 1991-1992 School Years	Did Change Occur? No	Yes --->	Resulted From Change in Perkins Funding Formula (A)	Resulted From Change in Perkins Act Legislation (B)	Resulted For Other Reason (C)
1. Added program(s)	*(n=1,038) 70%*	*30%*	*85%*	*88%*	*98%*
2. Added service(s) for special populations	*(n=1,034) 54*	*46*	*88*	*92*	*68*
3. Dropped programs	*(n=1,006) 81*	*19*	*94*	*82*	*94*
4. Dropped service(s) for special populations	*(n=1,004) 90*	*10*	*98*	*88*	*73*
5. Expanded existing program(s)	*(n=1,019) 58*	*42*	*80*	*80*	*87*
6. Expanded service(s) for special populations	*(n=1,041) 48*	*52*	*93*	*93*	*69*
7. Transferred program(s) among schools in this district	*(n=1,000) 95*	*5*	*	*	*
8. Transferred service(s) for special populations among schools in this district	*(n=997) 94*	*6*	*	*	*
9. Took on programs transferred from other districts	*(n=993) 98*	*2*	*	*	*
10. Transferred program(s) to other district(s)	*(n=998) 95*	*5*	*	*	*
11. Took on service(s) for special populations transferred from other district(s)	*(n=998) 96*	*4*	*	*	*
12. Transferred service(s) for special populations to other district(s)	*(n=998) 96*	*4*	*	*	*
13. Cut back existing program(s)	*(n=1,004) 80*	*20*	*93*	*85*	*86*

Note a: Estimate is not presented because this item applied to very few districts. An estimate based on such a small subgroup is very imprecise.

14. **(Continued)** Please indicate if changes in your district's vocational education programs and services occurred between the 1990-1991 school year and the 1991-1992 school year, and whether these changes resulted from (A) changes in the Perkins Act funding formula, and/or (B), changes in the Perkins Act law, or (C) if the changes resulted for some other reason? (CHECK ALL THAT APPLY)

Type of Change from 1990-1991 to 1991-1992 School Years	Did Change Occur? No	Yes --->	Resulted From Change in Perkins Funding Formula (A)	Resulted From Change in Perkins Act Legislation (B)	Resulted For Other Reason (C)
14. Cut back service(s) for special populations	*(n=1,004)* *91%*	*9%*	*91%*	*97%*	*60%*
15. Kept program(s) but funded with state/local funds	*(n=981)* *65*	*35*	*83*	*72*	*74*
16. Upgraded skills of teachers	*(n=1,027)* *46*	*54*	*78*	*82*	*87*
17. Improved curriculum	*(n=1,038)* *37*	*63*	*77*	*80*	*92*
18. Other (PLEASE SPECIFY) _____					

15. Listed below are a number of items that could be considered indicators of quality in vocational education programs. Please indicate whether or not your district used each of these indicators in its local assessment of the quality of vocational education in (A) the 1990-1991 school year, (B) preparing your 1991-1992 local assessment of vocational education, and (C) whether or not it plans to use (or is considering using) each indicator in the future. (CHECK ALL THAT APPLY FOR EACH INDICATOR)

Possible Quality Indicators	Used in 90-91 Local Assessment (A)		Use in 91-92 Local Assessment (B)		Plan To Use in Future (C)	
	Yes	No	Yes	No	Yes	No
1. Number of students in vocational education programs	*(n=1,052) 88%*	*12%*	*(n=1,043) 92%*	*8%*	*(n=1,007) 94%*	*6%*
2. Number of "high technology" programs	*(n=990) 55*	*45*	*(n=994) 64*	*36*	*(n=963) 78*	*22*
3. Number of students participating in "high technology" programs	*(n=976) 55*	*45*	*(n=979) 64*	*36*	*(n=967) 78*	*22*
4. Use of occupational competency standards	*(n=987) 56*	*44*	*(n=983) 65*	*35*	*(n=973) 77*	*23*
5. Use of certificates of competency	*(n=961) 35*	*65*	*(n=952) 38*	*62*	*(n=938) 59*	*41*
6. Graduation rates	*(n=985) 71*	*29*	*(n=988) 76*	*24*	*(n=966) 80*	*20*
7. Placement rates (additional education or training, employment, military service)	*(n=1,012) 66*	*34*	*(n=1,013) 70*	*30*	*(n=990) 79*	*21*
8. Program completion rates	*(n=1,007) 78*	*22*	*(n=1,013) 83*	*17*	*(n=986) 87*	*13*
9. Qualifications of vocational teachers	*(n=1,011) 79*	*21*	*(n=1,008) 81*	*19*	*(n=982) 82*	*18*
10. Career counseling/ assistance	*(n=1,019) 79*	*21*	*(n=1,024) 84*	*16*	*(n=1,000) 88*	*12*
11. Linkage with post-secondary vocational education programs	*(n=1,001) 55*	*45*	*(n=1,011) 67*	*33*	*(n=994) 81*	*19*
12. Linkage with business or labor	*(n=1,003 68*	*32*	*(n=1,008)7 7*	*23*	*(n=997) 86*	*14*
13. Integration of academics with vocational curriculum	*(n=977) 60*	*40*	*(n=1,009) 77*	*23*	*(n=1,005) 90*	*10*
14. A coherent sequence of courses leading to an occupational skill	*(n=1,004) 70*	*30*	*(n=1,014) 80*	*20*	*(n=1,005) 88*	*12*

15. **(Continued)** Listed below are a number of items that could be considered indicators of quality in vocational education programs. Please indicate whether or not your district used each of these indicators in its local assessment of the quality of vocational education in (A) the 1990-1991 school year, (B) preparing your 1991-1992 local assessment of vocational education, and (C) whether or not it plans to use (or is considering using) each indicator in the future. (CHECK ALL THAT APPLY FOR EACH INDICATOR)

Possible Quality Indicators	Used in 90-91 Local Assessment (A)		Use in 91-92 Local Assessment (B)		Plan To Use in Future (C)	
	Yes	No	Yes	No	Yes	No
15. Location of program (e.g. local high school, area vocational school, community college)	*(n=984)* *60*	*40*	*(n=980)* *64*	*36*	*(n=959)* *69*	*31*
16. Use of modern equipment/ facilities	*(n=1,023)* *83*	*17*	*(n=1,033)* *87*	*13*	*(n=1,006)* *91*	*9*
17. Participation in programs and services designed to eliminate sex bias and stereotyping in vocational education	*(n=1,017)* *82*	*18*	*(n=1,020)* *84*	*16*	*(n=1,001)* *91*	*9*
18. Other (PLEASE SPECIFY) _____ _____ _____ _____						

16. Listed below are credentials or qualifications that vocational education teaching staff might be required to have. For each, please indicate if (A) the State, or (B) the district, requires teachers to have that credential or qualification in order to teach vocational education in your school district. (PLACE A CHECK FOR THE STATE AND DISTRICT FOR EACH CREDENTIAL OR QUALIFICATION)

Types of Credentials	Required By State (A)		Required by District (B)	
	Yes	No	Yes	No
1. BS/BA degree	*(n=1,033)* *82%*	*18%*	*(n=1,016)* *84%*	*16%*
2. General certificate	*(n=825)* *63*	*37*	*(n=812)* *64*	*36*
3. Vocational teacher certificate for specific field	*(n=1,070)* *92*	*8*	*(n=1,051)* *92*	*8*
4. Continuing education credits for vocational education teacher in technical field	*(n=960)* *56*	*44*	*(n=948)* *58*	*42*
5. Continuing education credits for vocational education teacher in any education area	*(n=914)* *63*	*37*	*(n=912)* *63*	*37*
6. Other (PLEASE SPECIFY) _____				

17. In your opinion, what significant positive or negative effects, if any, have occurred as a result of the Perkins Act amendments of 1990? (WRITE IN BELOW)

(n=889)

18. In your opinion, what specific provisions of the Perkins Act, if any, should be modified? (WRITE IN BELOW)

(n=713)

Thank you for taking part in this survey. If you have any comments about this questionnaire or about vocational education, add them here

(n=198)

HRD/GS/10-25-91

GLOSSARY

The definitions of the following terms used in this questionnaire were taken from the language in the Carl D. Perkins Vocational and Applied Technology Education Act or U.S. Department of Education regulations.

High technology: State-of-the-art computer, microelectronic, hydraulic, pneumatic, laser, nuclear, chemical, telecommunication, and other technologies being used to enhance productivity in manufacturing, communication, transportation, agriculture, mining, energy, commercial, and similar economic activity, and to improve the provision of health care.

Sequential course of study: An integrated series of courses which are directly related to the educational and occupational skills preparation of individuals for jobs, or preparation for post-secondary education.

Special populations: Includes individuals with handicaps, educationally and economically disadvantaged individuals, and individuals of limited English proficiency.

Vocational education: Organized educational programs offering a sequence of courses which are directly related to the preparation of individuals in paid or unpaid employment in current or emerging occupations requiring other than a baccalaureate or advanced degree.

Summary of Responses to GAO's Survey of Public Secondary School Vocational Education Programs

Excerpt from the Carl D. Perkins Vocational and Applied Technology Education Act Amendments of 1990 (Public Law 101-392)

REQUIREMENT FOR GAO STUDY

Sec. 423 (3)(A) The General Accounting Office shall conduct a 3-year study, using representative samples, of the effects of the amendments made by title II of the Carl D. Perkins Vocational and Applied Technology Education Amendments of 1990 on the access to and participation in vocational education of disadvantaged students, students with handicaps, students of limited English proficiency, and to the extent practicable, foster children.

(B) The study shall include consideration of issues such as--

(i) the proportion of students described in paragraph (1) who are enrolled in vocational education programs during the first 3 program years to which the amendments apply compared to the program year preceding such years;

(ii) the number of such students who enroll in vocational education during the period of study;

(iii) the number of such students who participate in vocational education programs that lead to an occupational skill or job placement;

(iv) the extent to which academics are incorporated with vocational education courses;

(v) the manner in which vocational education programs have addressed special needs of such students for supportive services, material, and equipment;

(vi) the comparability of vocational education services provided such students with vocational education services provided to students who are not members of special populations; and

(vii) in the case of students with handicaps--

(I) the types and severity of handicaps of such students who enroll in vocational education programs;

(II) the extent to which such students participate in the same vocational education programs as students who do not have handicaps;

(III) the number of such students with individualized education programs [IEPS] developed under section 614(a)(5) of the Education of the Handicapped Act who have IEPS that include vocational education programs;

(IV) the extent to which special personnel such as special education personnel or vocational rehabilitation personnel assist in the selection and provision of vocational education programs with respect to such students;

(V) the extent to which such students and their parents are involved in selecting vocational education courses and programs;

(VI) the number of such students who have returned to secondary vocational education programs after dropping out of or formally exiting the local education system; and

(VII) the ages of such students.

U.S. GENERAL ACCOUNTING OFFICE
Survey of Public Secondary Schools

INTRODUCTION

With the enactment of The Carl D. Perkins Vocational and Applied Technology Act Amendments of 1990 (P.L. 101-392), the Congress mandated that the U. S. General Accounting Office conduct a study of vocational education and the Perkins Act (see facing page). To do this we are surveying schools and school districts to gather information about vocational education participation and funding.

The purpose of this questionnaire is to examine your experiences with vocational education during the 1990-1991 and 1991-1992 school years. We will conduct a similar survey of schools and school districts in 1994.

INSTRUCTIONS

This questionnaire focuses on vocational education at the secondary school level (generally, grades 10, 11, and 12, plus ungraded students of secondary age). It includes questions on the access to and participation in vocational education by students who are members of "special population" groups, that is, the disabled (handicapped), disadvantaged, and those with limited English proficiency. Your school district also received a separate questionnaire that asked about vocational education funding and programs.
You may find it helpful to consult with the staff from your school district's central office to answer some of the questions in this questionnaire, such as those on vocational education funding.

Because there are many schools and many different types of programs and courses offered under the general title of "vocational education", we are using the definition from the 1990 Perkins Act amendments.

We are defining vocational education as "organized educational programs offering a sequence of courses which are directly related to the preparation of individuals in paid or unpaid employment."

We are excluding from consideration personal growth or exploratory courses that are not part of a sequence leading to an occupational skill. A glossary of other important terms appears at the end of this questionnaire.

We realize your time is very limited, and that in order to answer all of the questions you may need to consult with other people. Please designate one person in this school to have overall responsibility for completing this questionnaire, and provide the following information so we can call that person to clarify information if necessary.

Name: _____

Title: _____

Telephone: _____

If you have any question about this questionnaire, please call Tom Hubbs or Brenda Lindsey- Johnson of our Philadelphia Regional Office at (215) 574-4000.

Please return the questionnaire in the accompanying postage paid envelope **within 20 working days** of receipt to:

Tom Hubbs
U.S. General Accounting Office
Suite 760
841 Chestnut Street
Philadelphia, PA 19107

Note: The adjusted sample size for this survey was 1,938 schools. 1,642 of these schools returned the questionnaire. Not all responded to every item. The "n" shown for each item denotes the number of schools that responded to that item.

Percentages noted here for each item are national estimates. Unless otherwise indicated, numbers of students, etc., presented are estimates of the total number across all schools in the U.S.

Answer the following questions about the school listed on the cover of this questionnaire.

1. Which of the following best describes your secondary school as it operated during the 1990-1991 school year? (CHECK ONE) ***(n=1,618)***

8%	Comprehensive high school with no vocational education programs
70%	Comprehensive high school offering one or more vocational education programs
4%	Comprehensive high school with attached shared time vocational-technical center on site
5%	Shared time vocational-technical school
2%	Full time vocational-technical school
2%	School for disabled/handicapped students only
6%	School for "at-risk" students ("alternative school") only
5%	Other. Please describe _____ _____ _____ _____ _____

2. What grades does your school serve? (CHECK ALL THAT APPLY) ***(n=1,622)***

13%	Grades 1-5
15%	6th grade
29%	7th grade
32%	8th grade
88%	9th grade
97%	10th grade
98%	11th grade
98%	12th grade
12%	Some ungraded students
1%	Ungraded students only

3. In your school, what is the lowest grade at which students can start vocational education programs (i.e. sequenced courses)? (CHECK ONE) ***(n= 1,613)***

14%	Below 9th grade
55%	9th grade
17%	10th grade
6%	11th grade
1%	12th grade
8%	Not applicable

4. For the two school years listed, consider all the 10th, 11th and 12th grade students (or combination of grades 10, 11 and 12) registered in your school (that is, students for whom your school is their home school). In the table below, please estimate, for the 1990-1991 school year, and as of the "formal accounting day" for the 1991-1992 school year, (A) the total number of students, (B) the number of students who are not in special populations (that is, the number of students who are not disabled, disadvantaged, or LEP), (C) the number of disabled students, (D) the number of students who are disadvantaged, and (E) the number of limited English proficient students (LEP). If your school is a shared-time school, and is not the home school for any students, please mark the box below. **If a student falls into more than one of the special population categories, count that student in each category.** (ENTER NUMBER OF STUDENTS)

[6%] ----> Shared-Time school, this is not the home school for any students ----> (GO TO QUESTION 15) *(n=359)*

School Year	Number of 10th, 11th, and 12th Grade Students in This School				
	Total number of Students (A)	Students Not in Special Populations (B)	Students with Disabilities (C)	Disadvantaged Students (D)	LEP Students (E)
1. 1990-1991	(n=1,117) 7,456,003	(n=975) 4,393,077	(n=1,031) 494,064	(n=984) 1,715,942	(n=935) 272,281
2. 1991-1992	(n=1,116) 7,558,280	(n=972) 4,410,542	(n=1,029) 523,844	(n=975) 1,802,273	(n=934) 323,173

5. During the 1990-1991 school year, how many of the 10th, 11th, and 12th grade students registered in your school were foster children? (ENTER NUMBER) *(n= 340)*

Number of foster children ----> *18,465*

65% Don't Know ----> GO TO *(n=855)* QUESTION 7)

6. During the 1990-1991 school year, how many of the 10th, 11th, or 12th grade foster children were enrolled in vocational education programs (sequenced courses)? (ENTER NUMBER) *(n=293)*

Number of foster children in vocational education ----------> *7,891*

7% Don't know *(n=31)*

7. Some schools follow up on the progress of students who have graduated. Has your school ever tracked placement information on or concerning students after they graduate? (CHECK ONE) *(n= 1,226)*

66% Yes

34% No (GO TO QUESTION 13)

8. What is the most recent graduating class for which you have post-graduation employment or education information? (ENTER YEAR) *(n=1,142)*

Graduating class of 1990: *28%*
1991: *53%*

9. How did your school track placement information on or concerning students after they graduate? (CHECK ALL THAT APPLY) *(n= 806)*

73% Students provided school with information on their plans before they graduated

65% School called/wrote to students sometime after graduation

19% Other (PLEASE SPECIFY) _____

10 Consider the most recent senior class for which you have employment or education information. In the table below, for each post-graduation status listed, please estimate (A) the total number of seniors in that status, (B) the number of seniors who were not members of special populations, (C) the number of seniors who were disabled, (D) the number of seniors who were disadvantaged, and (E) the number of seniors who were limited English proficient (LEP). **If a student falls into more than one of the special population categories, count that student in each category.** (ENTER NUMBER OF STUDENTS)

Post-Graduation Status	Total Number of Seniors in each Status Below (A)	Seniors who were Not Members of Special Populations (B)	Number of Special Population Seniors		
			Seniors who were Disabled (C)	Seniors who were Disadvantaged (D)	LEP Seniors (E)
1 Number of seniors going to 4 year college	*(n=713)* *54,590*	*(n=544)* *30,940*	*(n=470)* *915*	*(n=479)* *6,523*	*(n=436)* *671*
2 Number of seniors going to a community college or post secondary vocational training	*(n=730)* *36,405*	*(n=525)* *15,527*	*(n=487)* *1,259*	*(n=499)* *6,589*	*(n=412)* *620*
3 Number of seniors going directly to work	*(n=721)* *31,137*	*(n=520)* *12,527*	*(n=495)* *2,572*	*(n=499)* *7,756*	*(n=409)* *544*
4 Number of seniors going into the military	*(n=702)* *6,951*	*(n=505)* *2,984*	*(n=425)* *181*	*(n=499)* *1,663*	*(n=382)* *79*
5 Number of seniors unemployed	*(n=575)* *6,465*	*(n=420)* *2,134*	*(n=412)* *865*	*(n=415)* *2,019*	*(n=366)* *176*
6 Number of seniors whose status is unknown	*(n=653)* *14,015*	*(n=454)* *3,660*	*(n=413)* *798*	*(n=418)* *2,682*	*(n=384)* *507*
7 Total number of seniors for each column	*(n=865)* *149,285*	*(n=865)* *72,765*	*(n=865)* *7,229*	*(n=865)* *28,570*	*(n=865)* *2,836*

Note: Numbers presented in question 10 are not national estimates. They refer to only those schools that responded to this item. Some schools based their response on students' plans prior to graduation rather than their actual status.

11 Consider your answer to question 10. Of the graduating seniors, were any of them vocational education students (students enrolled in sequenced courses)? (CHECK ONE) *(n= 756)*

87% Yes

13% No ---> (GO TO QUESTION 13)

12. Consider the vocational education students (students in sequenced courses) of the most recent senior class for which you have employment or education information. In the table below, for each post-graduation status listed, please estimate (A) the total number of seniors in that status, (B) the number of seniors who were not members of special populations, (C) the number of seniors who were disabled, (D) the number of seniors who were disadvantaged, and (E) the number of seniors who were limited English proficient. **If a student falls into more than one of the special population categories, count that student in each category.** (ENTER NUMBER OF SENIORS)

Post-Graduation Status	Total Number of Seniors in each Status (A)	Seniors who were Not Members of Special Populations (B)	Number of Special Population Seniors: Seniors who were Disabled (C)	Seniors who were Disadvantaged (D)	LEP Seniors (E)
1 Number of seniors going to 4 year college	*(n=583) 16,048*	*(n=484) 9,040*	*(n=404) 402*	*(n=424) 3,341*	*(n=372) 279*
2 Number of seniors going to a community college or post-secondary vocational training	*(n=610) 17,082*	*(n=489) 8,220*	*(n=450) 742*	*(n=472) 4,642*	*(n=372) 433*
3 Number of seniors going directly to work	*(n=618) 23,237*	*(n=497) 9,793*	*(n=457) 2,080*	*(n=477) 6,601*	*(n=373) 374*
4 Number of seniors going into the military	*(n=579) 4,166*	*(n=460) 1,668*	*(n=388) 110*	*(n=434) 1,171*	*(n=352) 54*
5 Number of seniors unemployed	*(n=529) 4,101*	*(n=420) 1,517*	*(n=392) 619*	*(n=404) 1,335*	*(n=340) 86*
6 Number of seniors whose status is unknown	*(n=543) 7,140*	*(n=420) 2,400*	*(n=383) 400*	*(n=398) 1,536*	*(n=346) 143*
7 Total number of seniors for each column	*(n=768) 71,170*	*(n=768) 34,566*	*(n=768) 4,685*	*(n=768) 19,301*	*(n=768) 1,481*

Note: Numbers presented in question 12 are not estimates. They refer to only those schools that responded to this item. Some schools based their response on students' plans prior to graduation rather than their actual status.

13. Did any of the students registered in your school (that is, your school is their home school) participate in any vocational education programs (that is, sequenced courses), in either the 1990-1991 or the 1991-1992 school years, either in your school or at some other location? Do not count non-occupational courses such as personal growth/elective courses, or individual practical arts courses required for all students. (CHECK ONE) *(n= 1,197)*

85% Yes, for both the 1990-1991 and 1991-1992 school years

1% Yes, for the 1990-1991 school year only

1% Yes, for the 1991-1992 school year only

13% No -----> (GO TO QUESTION 15)

14. For the two school years listed, consider the number of 10th, 11th and 12th grade students (as applicable) registered in your school (that is, your school is their home school), that are in vocational education programs either here or at other locations. In the table below please estimate, for the 1990-1991 school year, and as of the "formal accounting day" for the 1991-1992 school year, (A) the total number of vocational education students, (B) the number of vocational education students who are not members of special populations, (C) the number of vocational education students who are disabled, (D) the number of vocational students who are disadvantaged, and (E) the number of vocational education students who are limited English proficient (LEP). **If a student falls into more than one of the special population categories, count that student in each category.** (ENTER NUMBER OF STUDENTS)

	Number of 10th, 11th, and 12th Grade Vocational Education Students				
School Year	Total Number of Students (A)	Students Not in Special Populations (B)	Students with Disabilities (C)	Disadvantaged Students (D)	LEP Students (E)
1. 1990-1991	(n=1,103) 3,478,090	(n=1,103) 1,893,961	(n=1,103) 252,048	(n=893) 1,056,969	(n=1,103) 134,523
2. 1991-1992	(n=1,103) 3,410,606	(n=886) 1,805,206	(n=901) 248,069	(n=877) 1,025,719	(n=810) 136,371

15. Were any vocational education programs (sequenced courses) offered by your school in the 1990-1991 and 1991-1992 school years? (CHECK ONE) ***(n=1,569)***

80% Yes, both 1990-1991 and 1991-1992

1% Yes, 1990-1991 only

<1% Yes, 1991-1992 only

19% No ---> (PLEASE GO TO QUESTION 35)

16. We are interested in determining the number of 10th, 11th, and 12th grade students participating in vocational education programs (sequenced courses) offered by your school in the 1990-1991 and 1991-1992 school years. Among the students participating in vocational education programs offered at your school, we would like to distinguish between those students who participate in vocational education programs offered by your school, and who are registered in your school (that is, those for whom this is the home school), and those students who participate in vocational education programs offered by your school but are registered in a home school that is different from your school. Do not consider students registered at your school who do not participate in vocational education programs at your school.

In part I of the table below please consider only those students who participate in the vocational education programs offered by this school and are registered in your school. Please estimate for the 1990-1991 school year, and as of the "formal accounting day" for the 1991-1992 school year, (A) the total number of vocational education students, (B) the total number of such vocational education students who are not in special populations, (C) the number of such vocational education students who are disabled, (D) the number of such vocational education students who are disadvantaged, and (E) the number of such vocational education students who are limited English proficient (LEP). **If a student falls into more than one of the special population categories, count that student in each category.** (ENTER NUMBER OF STUDENTS)

In part II of the table below please consider only those students who participate in the vocational education programs offered by this school but are registered in a home school that is different from your school. For these students, please fill in part II of the table following the directions cited above.

	Number of 10th, 11th, and 12th Grade Vocational Education Students Attending this School				
School Year	Total Number of Students (A)	Students Not in Special Populations (B)	Students with Disabilities (C)	Disadvantaged Students (D)	LEP Students (E)
PART I Vocational Education Students that attend and are registered in this school					
1. 1990-1991	(n=1,346) 3,275,890	(n=1,346) 1,822,073	(n=1,346) 230,444	(n=1,346) 998,225	(n=1,346) 128,482
2. 1991-1992	(n=1,005) 3,211,309	(n=893) 1,704,029	(n=911) 233,603	(n=899) 980,050	(n=822) 131,446
PART II Vocational Education Students that attend but are registered in another school					
3. 1990-1991	(n=936) 370,396	(n=777) 179,565	(n=778) 56,066	(n=773) 122,343	(n=720) 5,412
4. 1991-1992	(n=933) 360,179	(n=770) 165,176	(n=772) 55,384	(n=767) 120,743	(n=715) 5,683

17. Consider your school's vocational education programs (sequenced courses) in the 1990-1991 and 1991-1992 school years. How many programs did your school offer in each year? (ENTER NUMBER)

(n=1,254)

8.06 (mean) Programs in 1990-1991

(n=1,246)

7.98 (mean) Programs in 1991-1992

18. In the table below, for each year listed, please provide your best estimate of (A) the total funding your school received from all sources to cover costs such as personnel, benefits, capital facilities, equipment, supplies, etc. for your vocational education programs, and the amount that was provided for vocational education by (B) Perkins act funding, (C) other federal funds, such as JTPA, (D) State, or (E) local governments. (ENTER AMOUNTS, IF NONE ENTER '0')

School Year	Total Yearly Funding for Vocational Education in this School (A)	Perkins Act Funding for this School (B)	Other Federal Funding for this School for Vocational Education (C)	Amount of State Funding for this School for Vocational Education (D)	Amount of Local Funding for this School for Vocational Education (E)
1. 1990-1991					
2. 1991-1992					

***Note:** Responses to question 18 are not presented because, for one or more categories, many schools were unable to provide an estimate of the funding they received.*

19. For (A) the 1990-1991 school year, and (B) the 1991-1992 school year, please estimate the amount of your school's Perkins funding that was used for, or will be used for, each of the following. (ENTER AMOUNTS; IF NONE ENTER '0')

Uses of Perkins Funds in your School (ESTIMATE AMOUNT USED, IF ANY, IN EACH CATEGORY BELOW)	1990-1991 (A)	1991-1992 (B)
1. Hire additional staff		
2. Teacher salaries and benefits		
3. Teacher education/professional development		
4. Curriculum development		
5. Supplies/texts		
6. New equipment		
7. Other (PLEASE SPECIFY) _____ _____ _____ _____ _____		
8. Total--------->		

Note: Responses to question 19 are not presented because they were determined to be unreliable.

20. For (A) the 1990-1991 school year, and (B) the 1991-1992 school year, please estimate the amount of your school's Perkins funding that was used for, or will be used, for each of the following. (ENTER AMOUNTS; IF NONE ENTER '0')

Uses of Perkins Funds in your School (ESTIMATE AMOUNT USED, IF ANY, IN EACH CATEGORY BELOW)	(A) 1990-1991	(B) 1991-1992
1. Program(s) that existed in the prior year (excluding support services for special populations)		
2. New program(s) (excluding support services for special populations)		
3. Support services for special populations		
4. Other (PLEASE SPECIFY) _____ _____ _____		
5. Total---------->		

Note: Responses to question 20 are not presented because they were determined to be unreliable.

21. Consider the vocational education programs that your school offered during the 1990-1991 school year. Listed below are kinds of school-to-work transition activities. Please estimate for each activity (A) the number of your school's programs, if any, that constitute that kind of activity, (B) the number of students who were in these vocational education programs, and (C, D, E, F) the number of students, if any, who were in each non-special and special population, whether these students were registered in your school or came from some other home school. **If a student falls into more than one of the special population categories, count that student in each category.** (ENTER NUMBERS, IF NONE ENTER '0')

	School-to-Work Transition Activity	Number of Programs (Mean) (A)	Total Number of 10th, 11th and 12th Grade Students (B)	Number of 10th, 11th and 12th Grade Students Not in Special Populations (C)	Number of 10th, 11th, and 12th Grade Special Population Students		
					Disabled (D)	Disadvantaged (E)	LEP (F)
1	Tech Prep (also called 2+2)	(n=901) 1.24	(n=631) 280,280	(n=595) 147,216	(n=572) 14,375	(n=582) 69,326	(n=555) 28,387
2	Work Study/ Co-operative Education	(n=1,137) 2.75	(n=996) 533,329	(n=907) 298,932	(n=852) 41,743	(n=895) 141,289	(n=769) 10,968
3	Apprenticeship	(n=823) 0.23	(n=550) 17,386	(n=524) 7,530	(n=515) 3,187	(n=513) 6,058	(n=510) 593
4	Other (PLEASE SPECIFY): _____	(n=699) 0.96	(n=364) 118,736	(n=346) 65,255	(n=347) 10,342	(n=369) 34,741	(n=360) 1,797

22. Consider this school's vocational education programs in the 1990-1991 school year. Apart from a high school diploma, did this school grant certificates to students as an indication of competency attainment in any vocational education programs? (CHECK ONE)

(n=1,192)

26% Yes ----------> PLEASE ENTER NUMBER OF PROGRAMS: *7.31 (mean)*

74% No

23. Consider your school's vocational education programs (sequenced courses) in the 1990-1991 school year. How many of your programs had a minimum set of "competencies" or "standards" to be demonstrated or to be met for completion? (ENTER NUMBER)

(n=1,183)

4.94 (mean) Programs in 1990-1991

28% None ---> (GO TO QUESTION 25)

24. Some schools with vocational education programs use "standards" or "competencies" (including a minimum number of tasks to be fulfilled) that have been developed by various groups, such as trade organizations or craft advisory committees. Please indicate (A) the number of your school's vocational education programs, if any, that used standards established by each listed type of competency standard-setting organization for the 1990-1991 school year, (B) the total number of vocational education students in these programs, and your estimate of the number of non-special and special population vocational education students within those programs (C, D, E, F). **If a student falls into more than one of the special population categories, count that student in each category.** (ENTER THE NUMBER OF PROGRAMS ASSOCIATED WITH EACH LEVEL OF STANDARD SETTING ORGANIZATION AND THE NUMBER OF STUDENTS INVOLVED. IF NONE, ENTER '0')

					Number of 10th, 11th, and 12th Grade Special Population Vocational Education Students		
	Competency - Standard Setting Organization	Number of Programs With These Competency Standards (Mean) (A)	Total Number of 10th, 11th and 12th Grade Vocational Education Students (B)	Total Number of 10th, 11th and 12th Grade Vocational Education Students Not in Special Populations (C)	Disabled Students (D)	Disadvantaged Students (E)	LEP Students (F)
1.	National or industry-wide	*(n=532) 1.65*	*(n=414) 323,919*	*(n=391) 175,004*	*(n=386) 30,812*	*(n=390) 115,866*	*(n=368) 22,089*
2.	State government	*(n=624) 4.26*	*(n=517) 941,295*	*(n=484) 481,499*	*(n=474) 64,796*	*(n=486) 337,972*	*(n=433) 55,500*
3.	State-wide organization	*(n=584) 3.10*	*(n=480) 605,589*	*(n=454) 294,266*	*(n=445) 50,298*	*(n=452) 210,617*	*(n=415) 35,484*
4.	Local (eg business community, labor organization)	*(n=624) 3.54*	*(n=515) 624,708*	*(n=483) 335,804*	*(n=473) 60,989*	*(n=488) 202,452*	*(n=442) 37,267*
5.	School district	*(n=622) 4.55*	*(n=518) 937,756*	*(n=485) 450,626*	*(n=477) 70,767*	*(n=483) 278,614*	*(n=436) 39,310*
6.	School	*(n=589) 3.94*	*(n=496) 700,776*	*(n=466) 346,346*	*(n=466) 67,660*	*(n=470) 272,307*	*(n=437) 33,017*
7.	Other (PLEASE SPECIFY) _____ _____	*(n=212) 1.42*	*(n=188) 108,517*	*(n=181) 65,706*	*(n=181) 10,314*	*(n=182) 34,333*	*(n=179) 1,553*

25 Listed below are types of contributions that community organizations, businesses, public or private agencies, or groups can make to schools. For the 1990-1991 school year, please estimate (A) the number of organizations that made each type of contribution to your school, and (B) the number of your school's vocational education programs affected by each type of contribution, if any. (PLACE THE NUMBERS IN EACH BOX. IF NONE ENTER "0") ***(n=1,241)***

	Contribution by Organization(s)	Number of Companies, Labor Organizations, Agencies, or Post-Secondary Institutions Involved (A) (Mean)	Number of Vocational Education Programs Affected (B) (Mean)
1	Teachers spend time working in local industry for professional development	*1.69*	*1.31*
2	Industry people teach in the school	*3.18*	*1.92*
3	Help to develop/modify curriculum	*8.11*	*4.10*
4	Consult about skills needed by students in work place	*13.10*	*6.45*
5	Donate money to a vocational education program	*1.95*	*1.11*
6	Donate material, supplies or equipment to a vocational education program	*2.95*	*2.16*
7	Make facilities available to students (other than through co-ops)	*3.40*	*1.51*
8	Provide positions for work-study, co-ops, or apprenticeships	*22.18*	*2.89*
9	Evaluate students for competency attainment	*12.40*	*1.89*
10	Help develop competency standards	*8.81*	*2.56*
11	Provide mentor programs or job shadowing	*6.51*	*1.23*
12	Other (PLEASE SPECIFY)_____	*0.20*	*0.09*

26 Listed below are services that can be offered to students. For each service please indicate whether or not, during the 1990-1991 school year, that service was available in your school to (A) vocational education students not in special populations, (B, C, D) the special population vocational education students, or (E) if the service was not offered. (CHECK STUDENT GROUP RECEIVING EACH SERVICE)

			Special Population Students			
	Service	Vocational Education Students Not in Special Populations (n=1,271)	Disabled Vocational Education Students (n=1,034)	Disadvantaged Vocational Education Students (n=1,883)	LEP Vocational Education Students (n=448)	N/A Did Not Offer (n=1,271)
1	Teachers' aides	*25%*	*51%*	*40%*	*47%*	*37%*
2	Interpreter service	*6*	*15*	*8*	*35*	*63*
3	Reader service to the blind	*4*	*13*	*5*	*7*	*71*
4	Counseling/ guidance	*89*	*87*	*89*	*86*	*4*
5	Tutoring	*48*	*59*	*58*	*62*	*27*
6	Day care for children of students	*7*	*8*	*9*	*10*	*73*
7	Curriculum modification	*38*	*71*	*57*	*60*	*20*
8	Exposure to paid jobs	*62*	*64*	*64*	*59*	*23*
9	Exposure to unpaid or subsidized jobs	*37*	*47*	*43*	*41*	*39*
10	Life skills training	*61*	*74*	*67*	*65*	*16*
11	Evaluation/ assessment	*69*	*81*	*79*	*76*	*11*
12	Special recruitment for vocational education programs	*57*	*63*	*60*	*63*	*27*
13	Transportation services	*48*	*58*	*52*	*50*	*32*
14	Special or modified equipment	*15*	*46*	*23*	*23*	*44*
15	Waiver of tuition/fees	*14*	*17*	*22*	*20*	*60*
16	Other (PLEASE SPECIFY) _____ _____ _____ _____					

Note: Estimates for each special population are based on responses from schools that reported having that special population group who participated in vocational education.

27 Consider the special and non-special population students who participate in your school's vocational education programs. In the table below is a list of services. These services might be provided in a career or job placement center, as part of a program, or by a counselor for vocational education students. For each item listed, please indicate whether or not your school provided that service, in the 1990-1991 school year. (CHECK ONE FOR EACH SERVICE) *(n=1,282)*

Services for Both Special and Non-special Populations	Provided in 1990-1991 School Year	
	YES	NO
1 Career counseling	*97%*	*3%*
2 Job development	*77*	*23*
3 Resume preparation	*92*	*8*
4 Mock job interviewing	*88*	*12*
5 Job search	*79*	*21*
6 Interview arrangement	*72*	*28*
7 Transportation to interviews	*25*	*75*
8 Other (PLEASE SPECIFY) _____ _____ _____	*3*	*97*
Special services for disabled, disadvantaged, and LEP		
9 Job coaching	*64%*	*36%*
10 Mentoring	*46*	*54*
11 Support groups	*48*	*52*
12 Other (PLEASE SPECIFY) _____ _____ _____	*3*	*97*

28 During the 1990-1991 school year to what extent, if at all, did staff from your school participate in each of the following activities to help integrate academics with vocational education? (CHECK ONE FOR EACH ACTIVITY)

	Type of Activity	To A Very Great Extent (1)	To A Great Extent (2)	To a Moderate Extent (3)	To Some Extent (4)	To Little or No Extent (5)
1	Participated in training on differing learning styles *(n=1,256)*	*5%*	*14%*	*35%*	*26%*	*20%*
2	Participated in training on alternate teaching styles *(n=1,253)*	*6*	*15*	*32*	*26*	*22*
3	Participated in joint staff-development programs for academic and vocational teachers for integrating instruction *(n=1,255)*	*6*	*13*	*23*	*23*	*36*
4	Teacher exchange or cooperative teaching by vocational and academic teachers *(n=1,242)*	*2*	*6*	*12*	*17*	*64*
5	Other (PLEASE SPECIFY) *(n=88)* _____ _____ _____ _____ _____ _____	*11*	*20*	*14*	*5*	*50*

29 For the 1990-1991 school year, please provide the number of vocational education programs (sequenced courses), if any, offered by your school which conducted each type of activity listed below to teach (A) math, (B) communications/English, and (C) science. (INDICATE THE NUMBER OF PROGRAMS IN THE APPROPRIATE BOX) *(n=1,121)*

		Number of Programs Conducting Each Activity to Teach		
	Type of Program Activity	Math (Mean)	Communications/ English (Mean)	Science (Mean)
1	Programs where academic requirements are taught only in students' home high school	*3.82*	*3.91*	*3.50*
2	Programs where academic requirements are taught only in regular required academic classes	*3.33*	*3.43*	*3.27*
3	Programs where academic teacher and vocational education teacher work together (team teaching)	*0.43*	*0.45*	*0.29*
4	Programs where academic teacher does academic teaching in vocational education classes	*0.27*	*0.28*	*0.19*
5	Programs where additional academic training is provided to vocational education teachers	*0.71*	*0.70*	*0.58*
6	Programs where vocational education teacher does academic teaching in vocational education class	*3.10*	*2.91*	*2.14*
7	Programs where each course within that vocational program concentrates on academics	*1.31*	*1.22*	*0.87*
8	Programs that give academic credit in vocational education courses which have high academic content	*0.71*	*0.60*	*0.67*
9	Other (PLEASE SPECIFY) _____ _____ _____ _____	*0.14*	*0.07*	*0.05*

30 Now please consider the program activities, listed below, as they apply to the vocational education students in your school, whether they are registered at your school or came from some other home school. For the 1990-1991 school year, please estimate the (A) total number of vocational education students, (B) the number of vocational education students not in special populations, and (C, D, E) the number of special population students at your school who were in programs that were conducted in each of the following ways. (INDICATE THE NUMBER OF STUDENTS IN THE APPROPRIATE BOX)

				Number of Special Population Students		
	Type of Program Activity	Total Number of Vocational Education Students (A)	Number of Vocational Education Students Not in Special Populations (B)	Disabled (C)	Disadvantaged (D)	LEP (E)
1	Programs where academic requirements are taught only in students' home high school	*(n=776) 2,102,343*	*(n=776) 1,178,719*	*(n=729) 157,872*	*(n=736) 669,447*	*(n=640) 71,205*
2	Programs where academic requirements are taught only in regular required academic courses	*(n=732) 1,970,078*	*(n=732) 1,114,719*	*(n=694) 149,446*	*(n=703) 587,643*	*(n=622) 78,212*
3	Programs where academic teacher and vocational education teacher work together (team teaching)	*(n=569) 162,735*	*(n=569) 90,317*	*(n=522) 20,740*	*(n=531) 55,181*	*(n=476) 2,927*
4	Programs where academic teacher does academic teaching in vocational education classes	*(n=552) 164,179*	*(n=552) 82,048*	*(n=509) 16,872*	*(n=515) 42,384*	*(n=470) 2,595*
5	Programs where additional academic training is provided to vocational education teachers	*(n=532) 281,807*	*(n=532) 133,380*	*(n=497) 21,937*	*(n=501) 122,663*	*(n=465) 10,332*
6	Programs where vocational education teacher does academic teaching in vocational education class	*(n=756) 1,394,631*	*(n=756) 753,158*	*(n=708) 99,522*	*(n=718) 438,354*	*(n=613) 64,513*
7	Programs where each course within that vocational program concentrates on academics	*(n=594) 612,762*	*(n=594) 308,175*	*(n=553) 45,017*	*(n=567) 228,979*	*(n=498) 48,809*
8	Programs that give academic credit in vocational education courses that have high academic content	*(n=624) 345,628*	*(n=624) 185,868*	*(n=564) 25,221*	*(n=585) 94,951*	*(n=515) 7,972*
9	Other (PLEASE SPECIFY) _____ _____ _____	*(n=87) 19,827*	*(n=83) 9,849*	*(n=87) 2,641*	*(n=85) 8,477*	*(n=83) 39*

31 What additional steps, if any, does your school plan to take to integrate academics with vocational education for the 1991-1992 or future school years? (WRITE IN BELOW)

[ ] No additional steps planned

7,716 schools plan to take additional steps

(n=944)

32 Please describe what steps, if any, your school has taken or plans to take to introduce applied learning concepts (that is, using examples, activities, and problems faced in the world of work) with academic courses? (WRITE IN BELOW)

[ ] No steps taken, have no plans

7,391 schools plan to take additional steps

(n=864)

13. Consider those who taught vocational education courses (those who teach sequenced courses) in your school for the 1990-1991 school year. Please indicate the number of teachers who had the indicated years of experience (A) teaching, and (B) in labor, trade, or industry associated with the subject taught. (ENTER THE NUMBER OF TEACHERS WITH THE ASSOCIATED NUMBER OF YEARS EXPERIENCE)

	Years of Experience	Teaching Experience (Number of Teachers) (A)	Experience in Labor, Trade or Industry Associated with Subject Taught (Number of Teachers) (B)
1	Less than 2 years	*(n=703)* *4,949*	*(n=636)* *9,234*
2	2 to less than 5 years	*(n=820)* *9,600*	*(n=780)* *12,795*
3	5 to less than 10 years	*(n=911)* *16,417*	*(n=833)* *14,840*
4	More than 10 years	*(n=1,186)* *63,631*	*(n=963)* *30,321*
5	Total Number of Teachers ---------->	*(n=1,251)* *95,361*	*(n=1,156)* *67,570*

14. Again, consider those who taught vocational education courses in your school for the 1990-1991 school year. Please indicate how many had achieved each listed education level. (ENTER THE NUMBER OF TEACHERS FOR EACH EDUCATION LEVEL)

	Highest Degree Obtained	Number of Teachers with Listed Degrees
1	High school diploma/ some college	*(n=749)* *17,397*
2	BA/BS degree	*(n=1,118)* *44,036*
3	MA/MS degree or higher	*(n=1,124)* *41,247*
4	Other Degree (PLEASE SPECIFY) _____	*(n=314)* *52,423*
5	Total Number of Teachers------->	*(n=1,258)* *105,424*

35 Some schools offer special vocational education programs (including workshops or institutes) funded by a Perkins Act grant that target adults, single pregnant women (including teenagers) or displaced homemakers, or programs or services to eliminate sex bias. Which, if any, of these programs does your school offer? (CHECK ALL THAT YOUR SCHOOL OFFERS. IF NONE CHECK THE 'NONE' BOX)
(n=1,553)

9% Programs targeted to adults

13% Programs targeted to single pregnant women

5% Programs targeted to displaced homemakers

14% Programs or services to eliminate sex bias

75% None, this school offers no such programs-----> (GO TO QUESTION 37)

36 Consider the vocational education programs (including workshops or institutes) referred to in your answer to question 35. Please estimate for the two years listed the number of these programs and the number of students participating in those programs who were (A) adults, (B) single pregnant women students, and (C) displaced homemakers, and (D) the number of programs or services and participating students in programs to eliminate sex bias. (WRITE IN THE NUMBER OF PROGRAMS AND STUDENTS FOR EACH YEAR)

School Year	Vocational Education Programs and Services							
	For Adults (A)		For Single Pregnant Women (B)		For Displaced Homemakers (C)		To Eliminate Sex Bias (D)	
	Number of programs (Mean)	Number of students	Number of programs (Mean)	Number of students	Number of programs (Mean)	Number of students	Number of programs (Mean)	Number of students
1. 1990-1991	*(n=516) 2.44*	*(n=515) 203430*	*(n=516) 0.84*	*(n=515) 39518*	*(n=515) 0.46*	*(n=514) 15831*	*(n=516) 2.23*	*(n=514) 375678*
2. 1991-1992	*(n=515) 2.42*	*(n=514) 183992*	*(n=516) 0.82*	*(n=515) 35071*	*(n=516) 0.42*	*(n=515) 15124*	*(n=516) 2.28*	*(n=514) 372806*

(Note: The numbers of programs shown are averages.)

37 Thank you for taking part in this survey. If you have any comments about this questionnaire or about vocational education, please add them here:

(n=291)

GLOSSARY

The definitions of the following terms used in this questionnaire were taken from the language in the Carl D. Perkins Vocational and Applied Technology Education Act or U.S. Department of Education regulations.

Disabled: Individuals who are mentally retarded, hard of hearing, deaf, speech impaired, visually handicapped, seriously emotionally disturbed, orthopedically impaired, other health impaired, deaf-blind, multihandicapped, or have specific learning disabilities, who because of these impairments, need special education and related services and cannot succeed in the regular vocational education program without special education assistance.

Disadvantaged: Individuals (other than individuals with handicaps) who have economic or academic disadvantages and who require special services and assistance to succeed in vocational education programs. The term includes individuals who are members of economically disadvantaged families, migrants, individuals of limited English proficiency and individuals who are dropouts from, or who are identified as potential dropouts from, secondary school.

High technology: State-of-the-art computer, microelectronic, hydraulic, pneumatic, laser, nuclear, chemical, telecommunication, and other technologies being used to enhance productivity in manufacturing, communication, transportation, agriculture, mining, energy, commercial, and similar economic activity, and to improve the provision of health care.

Limited English Proficient: Individuals who were not born in the United States or whose native language is other than English; who come from environments where a language other than English is dominant or has had a significant impact on their level of English language proficiency; and as a result, have sufficient difficulty speaking, reading, writing or understanding the English language to deny these individuals the opportunity to learn successfully in classrooms where English is the language used for instruction.

Sequential course of study: An integrated series of courses which are directly related to the educational and occupational skills preparation of individuals for jobs, or preparation for post-secondary education.

Special populations: Includes individuals with disabilities (handicaps), educationally and economically disadvantaged individuals, and individuals of limited English proficiency.

Vocational education: Organized educational programs offering a sequence of courses which are directly related to the preparation of individuals in paid or unpaid employment in current or emerging occupations requiring other than a baccalaureate or advanced degree.

Comments From the Department of Education

UNITED STATES DEPARTMENT OF EDUCATION

OFFICE OF VOCATIONAL AND ADULT EDUCATION

APR 2 1993

Dr. Linda G. Morra
Director, Education and Employment Issues
Human Resources Division
United States General Accounting Office
Washington, D.C. 20548

Dear Dr. Morra:

The Secretary asked me to respond to your letter dated March 4, 1993, requesting a review of the draft report entitled Vocational Education: Status in School Year 1990-91, and Preliminary Signs of Change (GAO/HRD-93-71). Attached are our comments on the draft report.

The Department has focused its comments primarily on those issues raised in the GAO report related to data collection for vocational education. While we do have some concerns about the inconsistencies between GAO's use of terms and the definitions in the Act as well as interpretations of regulations, we did not include them given the short deadline for a response. However, we would be glad to discuss those concerns with you at a later date or, if time permits, provide them to you in a later memo.

If you have any questions, please contact Dr. Winifred I. Warnat, Director, Division of Vocational-Technical Education, at 205-9441.

Sincerely,

Ricky Takai
Acting Assistant Secretary for
Vocational and Adult Education

Enclosure

400 MARYLAND AVE., S.W. WASHINGTON, D.C. 20202

U.S. Department of Education Response to GAO Draft Report, "Vocational Education: Status in School Year 1990-91 and Preliminary Signs of Change" (GAO/HRD-93-71)

Draft Report
pp. 1 & 2

The last paragraph states that the GAO has "undertaken two four-year studies--one of secondary schools and one of postsecondary institutions--to identify changes occurring in vocational education programs after the amendments took effect." The studies address changes to: "(1) improve vocational program quality nationwide, in part by encouraging specific educational approaches; (2) require schools to ensure targeted groups access to vocational programs; (3) concentrate funding so that programs are of sufficient size and scope to be effective, in part by setting a minimum allocation for districts and requiring funds to be used at a limited number of schools; and (4) require program assessments."

Our comments address area four on program assessments:

Program Assessments

One of the major issues raised by the GAO study is the lack of student placement data. The report states (p. 5) that "[a]t the time of our review, States were developing systems of standards and measures, required by school year 1992-93, to evaluate vocational programs; most States planned to use postgraduate placement data as one of their measures. However, at the local level, survey responses indicate that in school year 1990-91 about half the schools did not keep placement data, key information for assessing program outcomes." While the placement data are important, the collection of such data at the district or school level is complex and quite expensive. Given the fiscal constraints at the State and local levels, it may be beyond the school's ability to collect these kinds of data.

In an effort to obtain more useable program and student data from the States, OVAE is employing several strategies: (1) providing technical assistance to States on program quality assessment and performance standards and measures; (2) improving State data reporting mechanisms--the annual performance report and the financial status report; (3) establishing a management information system developed cooperatively with the States; and (4) conducting compliance

monitoring on all required aspects of Perkins implementation, to begin in April 1993, on a pilot basis with three States.

Draft Report
pp. 5 & 14

The second sentence of the first full paragraph states that: "Two years after the act's passage, the Department was still developing a national data system that the amendments required to be operational by March 1991." The second sentence of the second paragraph on page 14 states that: "The Department of Education has begun planning, but has not yet developed, the national data system mandated in the amendments, to inform policy makers and provide data to those responsible for programs at the state and local level."

The Department of Education has a system for collecting data on vocational education, referred to as Data on Vocational Education or DOVE. This system has been in existence since 1987 and derives data on vocational education from a combination of general purpose education surveys. Section 421 (c)(1)(C) of the Perkins Act endorses this approach. It states:

> *The Secretary, in consultation with the Task Force* (on vocational education data), *the National Center* (for Education Statistics), *and the Office of Adult and Vocational Education ... shall modify existing general purpose and program data systems to ensure that an appropriate vocational education component is included in the design, implementation and reporting of such systems in order to fulfill the information requirements of this section.*

Immediately after passage of the 1990 Perkins amendments, the Department of Education convened a vocational education work group consisting of representatives from offices throughout the Department. During these meetings, we discussed provisions of the legislation that affect the Department and how these provisions should be addressed. As a result of progress made by this group, the system as of March 1991 has been upgraded to address the new provisions of the legislation. Some examples of changes that we have

made in our surveys related to vocational data needs include:

- revising and expanding the categories of vocational teachers in the Schools and Staffing Survey (SASS);
- surveying school districts about their participation in tech-prep education in SASS; and
- increasing the sample size of limited English proficient (LEP) and students with disabilities in our 1992 transcript study.

In addition, the Department of Education sponsored and participated in a vocational education data work group convened by the National Center for Research on Vocational Education (NCRVE). The Department anticipates that NCRVE will publish the final report near the end of April 1993 and will include several recommendations that will help improve the vocational education data program.

DOVE has enabled the Department of Education to produce several publications targeted specifically on vocational education, including Vocational Education in the United States: 1969-1990, the first comprehensive publication of data on vocational education that has been produced since 1981. Other reports that have specifically addressed vocational education include: Participation in Secondary Vocational Education, 1982-1987; A Comparison of Vocational and Non-vocational Public School Teachers of Grades 9 to 12; and Teachers of Secondary Vocational and Nonvocational Classes in Public Schools. In addition, more information on vocational education is now routinely included in NCES reports on students, teachers, and institutions in the context of the education system as a whole.

In sum, we believe the Department met the March, 1991 deadline and that the data system required by Congress is fully operational.

Attachment II
p. 33

The last two sentences of the second paragraph on page 33 state: "The study, not yet completed at the time of our review, recognized that many data collection problems exist. For example, there is virtually no information on State and local expenditures for vocational education, and organizations within the Department do not coordinate their data collection efforts."

In reference to the first example provided, it is extremely difficult to provide reliable data on State and local expenditures for vocational education. Schools do not categorize State and local funds by type of instruction (e.g. vocational education, math, English). Instead, funds are classified by categories such as salaries and supplies. As a result, data collection problems have always existed in this area.

Concerning the second example, we anticipate that the NCRVE study will indicate that the Department can improve upon the coordination of its data collection efforts related to vocational education. However, since coordinated efforts clearly exist between the Department's offices, we do not believe that NCRVE's study will indicate that "organizations within the Department do not coordinate their data collection efforts." The National Center for Education Statistics (NCES) coordinates its data collection carefully with users in the Department. The sharing of draft surveys with the Office of Vocational and Adult Education and NCRVE has provided important advice to NCES that resulted in improved surveys.

Attachment II
p. 33

The first sentence in the third paragraph of page 33 states: "Without knowing its data needs, it is difficult for the Department to complete its plans for the system."

This statement confuses the purposes of the Vocational Education Advisory Task Force and ignores the direction Congress gave in regard to establishing the task force. Section 421 (a) (2) requires the Department of Education to establish a data system by March 1991. Section 421 (g) (2), however, clearly indicates that the Vocational Education Advisory Task Force is supposed to terminate by December 1992. Congress appears to have envisioned that the Department could establish the data system and use input from the task force to revise and improve upon that system. The system described by the legislation is one that needs to develop in response to evolving data needs. The Department believed that the approach envisioned by Congress is workable and adopted it.

Attachment II
p. 34

The second complete sentence of the first paragraph on page 34 states: "...neither of the two most recent transcript studies (conducted in 1987 and 1990) identifies economically disadvantaged students, a major group targeted by the Perkins Act."

Although the 1987 and 1990 transcript studies do not identify economically disadvantaged students, the 1992 transcript study associated with the National Education Longitudinal Study: 1988 (NELS) will identify them. NELS collects rich background data on students from a combination of students, teachers, and parents. We will, therefore, be able to associate transcripts with the economic background of 1992 high school graduates. Moreover, NELS provides substantial information related to vocational education and reforms contained in the Perkins Act. NELS includes:

- o student assessments in grades 8, 10, and 12;
- o information related to the transition to and participation in postsecondary education; and
- o data on labor market outcomes.

The 1987 and 1990 transcript studies are both associated with the National Assessment of Educational Progress (NAEP). While NAEP includes a short survey, its principal focus is on assessing students. There is no parental questionnaire, and students are not able to provide accurate information about the socioeconomic characteristics of their families. As a result, there is little information on the economic situation of students.

A drawback of using a derived data system is that we do not always have a particular data element in all the years that we would like. This situation would pertain, however, with any type of data collection conducted on less than an annual basis. The benefits of the derived system greatly outweigh this drawback. The benefits include:

- o being able to compare information on vocational programs, students, and teachers with programs, students, and teachers that are not vocational, to provide a broad context for understanding vocational education.
- o being able to link the degree of participation in vocational education with such data as student assessment scores and the wages of graduates.

Attachment II
p. 34

The final sentence of the first paragraph on page 34 states: "NCES believes that analytical data from the (1990 transcript) study will be available no earlier than March 1993."

Due to competing priorities and limited resources, NCES had to delay keying in data from the transcripts. These data, however, are now available. We would like to note that the 1992 NELS transcript data should be released by August 1993.

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The Changing Workforce: Demographic Issues Facing Employers (GAO/T-GGD-92-61, July 1992).

Correspondence on Multiple Employment and Training Programs (GAO/HRD-92-39R, July 24, 1992).

Apprenticeship Training: Administration, Use, and Equal Opportunity (GAO/HRD-92-43, Mar. 4, 1992).

Transition From School to Work: Linking Education and Worksite Training (GAO/HRD-91-105, Aug. 2, 1991).

Training Strategies: Preparing Noncollege Youth for Employment in the U.S. and Foreign Countries (GAO/HRD-90-88, May 11, 1990).

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